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# UNIVERSITY OF MONTANA BULLETIN

State University Series

June, 1940

Number 373

## Montana State University

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COLLEGE OF ARTS AND SCIENCES,  
SCHOOLS OF BUSINESS ADMINISTRATION,  
EDUCATION, FORESTRY, JOURNALISM,  
LAW, MUSIC, PHARMACY, AND  
THE GRADUATE SCHOOL

---

## CATALOG NUMBER

For 1939-40

INCLUDING  
ANNOUNCEMENTS FOR  
1940-41

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MISSOULA, MONTANA

Issued six times yearly, Jan., Feb., March, April, June, and December. Entered as second-class matter at the postoffice at Missoula, Montana, under Act of Congress, August 24, 1912.



## THE UNIVERSITY OF MONTANA

H. H. SWAIN, Executive Secretary of the University  
State Capitol, Helena, Montana

The University of Montana is constituted under the provisions of Chapter 92 of the Laws of the Thirteenth Legislative Assembly, approved March 14, 1913 (effective July 1, 1913).

The general control and supervision of the University are vested in the State Board of Education. For each of the component institutions there is a local executive board.

### Montana State Board of Education

ROY E. AYERS, Governor.....	Ex-Officio President
HARRISON J. FREEBOURN, Attorney General.....	Ex-Officio
RUTH REARDON, Supt. of Public Instruction.....	Ex-Officio Secretary
GEORGE M. GOSMAN, 1941.....Dillon	C. D. BORTON, 1943.....Glasgow
MRS. MAMIE NANCE, 1941.....Birney	HOWARD GULLICKSON, 1943.....Billings
WILLIAM T. BOONE, 1942.....Missoula	WILLIAM T. COWAN, 1944.....Box Elder
EMMET J. RILEY, 1942.....Helena	J. P. FABRICK, 1944.....Bozeman

The University comprises the following institutions, schools, and departments

### Montana State University, Missoula

Established February 17, 1893, and consisting of

The College of Arts and Sciences	The Summer Session
The School of Law	The Biological Station (Flathead Lake)
The School of Pharmacy	The Forest and Conservation Experimental Station
The School of Forestry	Forest Nursery
The School of Journalism	Blackfoot Forest
The School of Music	The Public Service Division
The School of Business Administration	The Graduate School
The School of Education	George Finlay Simmons, President

### Montana State College, Bozeman

Established February 16, 1893, and consisting of

The College of Agriculture	The School of Music
The College of Engineering	The Secondary School of Agriculture
The College of Applied Science	The Agricultural Experiment Station
The College of Household and Industrial Arts	The Agricultural Extension Service

August L. Strand, President

### Montana School of Mines, Butte

Established February 17, 1893, and consisting of

The Course in Mining Engineering	The Course in Metallurgical Engineering
The Bureau of Mines and Geology	The Course in Geological Engineering
Francis A. Thomson, President	

### Montana State Normal College, Dillon

Established February 23, 1893, and consisting of

The Two-year Course	The Summer Quarter
The Four-year Course	The Teachers' Service Division
Sheldon E. Davis, President	

### Eastern Montana State Normal School, Billings

Established March 12, 1925, and consisting of

The Two-year Course	The Three-year Course	The Summer Quarter
Lynn B. McMullen, President		

### Northern Montana College, Havre

Established March 8, 1913, and consisting of

The Two-year Liberal Arts and Pre-professional Courses
The Three-year Courses in Education and Medical Secretaryship
G. H. Vande Bogart, President

For publications and detailed information concerning the different schools and colleges address the Registrar of the particular institution concerned. Communications intended for the Executive Secretary of the University should be addressed to the State Capitol, Helena, Montana.

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## 1940-41

### Spring Quarter

March 20, Wednesday.....	Registration of New Students; Instruction Begins
May 9-11, Thursday through Saturday.....	Interscholastic Track Meet
May 30, Thursday.....	Memorial Day, a Holiday
June 3, Monday.....	Commencement
June 4-7, Tuesday through Friday.....	Examinations
June 7, Friday, 5:20 p. m.....	Spring Quarter Ends

## Summer Session

June 10, Monday.....	Registration
June 11, Tuesday.....	Instruction Begins
July 4, Thursday.....	Independence Day, a Holiday
August 9, Friday.....	Session Ends

## Autumn Quarter

September 24-27, Tuesday through Friday.....Freshman Week and Registration  
of Freshmen and New Students with Advanced Standing  
September 27-28, Friday and Saturday.....Registration of Former Students  
September 30, Monday.....Instruction Begins  
November 21, Thursday.....Thanksgiving Day, a Holiday  
December 16-19, Monday through Thursday.....Examinations  
December 19, Thursday, 5:20 p.m.....Quarter Ends; Christmas Recess Begins

### Winter Quarter

January 6, Monday.....	Registration of New Students; Instruction Begins
February 17, Monday.....	Charter Day
March 17-20, Monday through Thursday.....	Examinations
March 20, Thursday, 5:20 p. m.....	Winter Quarter Ends

### Spring Quarter

March 26, Wednesday.....	Registration of New Students; Instruction Begins
May 15-17, Thursday through Saturday.....	Interscholastic Track Meet
May 30, Friday.....	Memorial Day, a Holiday
June 9, Monday.....	Commencement
June 10-13, Tuesday through Friday.....	Examinations
June 13, Friday, 5:20 p. m.....	Spring Quarter Ends

## Summer Session

June 16, Monday.....	Registration
June 17, Tuesday.....	Instruction Begins
July 4, Friday.....	Independence Day, a Holiday
August 15, Friday.....	Session Ends

## Autumn Quarter

September 23-26, Tuesday through Friday...Freshman Week and Registration  
of Freshmen and New Students with Advanced Standing  
September 26-27, Friday and Saturday.....Registration of Former Students  
September 29, Monday.....Instruction Begins  
November 27, Thursday.....Thanksgiving Day, a Holiday  
December 15-18, Monday through Thursday.....Examinations  
December 18, Thursday, 5:20 p. m....Quarter Ends; Christmas Recess Begins

An act of the Seventeenth Legislative Assembly provides that schools shall not be dismissed on the following days: February 12 (Lincoln's Birthday), February 22 (Washington's Birthday), second Tuesday of May (Arbor Day), June 14 (Flag Day), October 12 (Columbus Day), November 1 (Pioneer Day), November 11 (Armistice Day).

## Official Directory

### Executive Board

GEORGE FINLAY SIMMONS (ex-officio Chairman).....	Missoula
S. J. COFFEE.....	Missoula
J. F. S. MARSHALL.....	Missoula
J. B. SPEER, Secretary.....	Missoula

### Administrative Officers

H. H. SWAIN, Ph.D.....	Executive Secretary of the University of Montana (Helena)
GEORGE FINLAY SIMMONS, Ph.D.....	President
JOSEPH W. SEVERY, Ph.D.....	Vice President
RICHARD H. JESSE, Ph.D.....	Dean of the Faculty and Dean of the College of Arts and Sciences
J. EARLL MILLER, Ph.D.....	Dean of Men
MARY ELROD FERGUSON (Mrs.), M.A.....	Assistant Dean for Women
JAMES B. SPEER, B.A., LL.B.....	Registrar and Business Manager
EDWIN L. MARVIN, M.A.....	Director of Public Service Division
GARVIN D. SHAFFENBERGER, Ph.D.....	Director of Placement Bureau and Director of Summer Session
KATHLEEN CAMPBELL, M.S.....	Executive Librarian

### The Faculty

ADAMS, HARRY F.....	Associate Professor of Physical Education; Track Coach; Assistant Football Coach B.A., Montana State University, 1921.
AMES, WALTER R.....	Professor of Education Ph.B., University of Wisconsin, 1917; Ph.M., 1918; Ph.D., 1926.
ARMSEY, LUCILLE JAMESON (Mrs.).....	Secretary to the President B.A., Montana State University, 1922.
ARNOLD, ADEN.....	Instructor in Fine Arts B.A., State University of Iowa, 1925; M.A., 1928.
ARNOLDSON, LOUISE G. (Mrs.).....	Professor of French Diplôme d'Études Françaises de Touraine (Alliance Française—Université de Poitiers), 1914; B.A., University of Utah, 1919; Docteur de l'Université de Paris (Lettres), 1934.
ATKINSON, ERNST A.....	Professor of Psychology B.A., University of Denver, 1920; M.A., Montana State University, 1922.
BADGLEY, E. KIRK.....	University Auditor, Graduate Manager Intercollegiate Athletics, and Assistant Business Manager B.A., Montana State University, 1924.
BARKLEY, FRED A.....	Instructor in Botany B.A., University of Oklahoma, 1930; M.S., 1932; Ph.D., Washington University, 1937.

- BATEMAN, WILLIAM G.....Professor of Chemistry  
B.A., Stanford University, 1907; M.A., 1909; Ph.D., Yale University, 1916.
- BATES, ROBERT.....Graduate Assistant in Social Sciences  
B.A., Montana State University, 1936.
- BATY, HARVEY F.....Assistant Professor of Religion  
and Director of the Affiliated School of Religion  
B.A., Montana State University, 1931; B.D., Colgate-Rochester  
Divinity School, 1934.
- \*BELL, CLARENCE W.....Instructor in Music and Band Director  
B.S. Ed., University of Illinois, 1936.
- BENNETT, EDWARD E.....Associate Professor of History and  
Political Science  
B.A., University of Kansas, 1916; M.A., University of Wisconsin,  
1923; Ph.D., 1925.
- BERLAND, ALICE.....Instructor in Business Administration  
B.A., Montana State University, 1936.
- BISCHOFF, PAUL A.....Associate Professor of Spanish  
B.S., Montana State University, 1927; B.A., 1928; M.A., Oberlin  
College, 1932.
- BLOOM, CHARLES W.....Assistant Professor of Forest Engineering  
B.S., Montana State University, 1927; M.F., Syracuse University,  
1934.
- \*\*BODDY, MARGARET PEARSE.....Instructor in English  
B.A., University of Minnesota, 1931; M.A., 1932; Ph.D., 1935.
- BRADY, AGNES M.....Assistant Professor of Home Economics  
B.S., Ohio State University, 1914; M.A., Columbia University, 1926.
- BRIGGS, EDWIN W.....Associate Professor of Law  
B.S., Oklahoma A. & M. College, 1927; LL.B., University of Okla-  
homa, 1932; LL.M., Harvard University Law School, 1935.
- BROWMAN, LUDVIG G.....Assistant Professor of Zoology  
and Physiology  
B.S., University of Chicago, 1928; Ph.D., 1935.
- CAMPBELL, KATHLEEN.....Executive Librarian,  
Assistant Professor of Library Economy  
B.S., University of Denver, 1934; M.S., 1939.
- CAREY, EUGENE F. A.....Associate Professor of Mathematics  
B.S., University of California, 1905; M.S., 1914.
- CASTLE, GORDON B.....Professor of Zoology  
and Director, Biological Station  
B.A., Wabash College, 1928; M.A., University of California, 1930;  
Ph.D., 1934.
- CAULKINS, RALPH M.....Associate Professor of Military Science  
and Tactics  
Major, U. S. Army; B.S., North Dakota College of Agricultural and  
Mechanical Arts, 1915; Infantry School 1922-23; 1929-30.
- CHATLAND, HAROLD.....Instructor in Mathematics  
B.A., McMaster University, 1934; M.S., University of Chicago,  
1935; Ph.D., 1937.
- CLAPP, MARY B. (Mrs.).....Instructor in English  
B.A., University of North Dakota, 1903; M.A., 1906.

\*Assistant Professor, 1940-41.

\*\*Winter and Spring Quarters, 1939-40.



- CLARK, FAY G.....Professor of Forest Management  
B.A., University of Michigan, 1912; M.S.F., 1914.
- CLARK, WESLEY P.....Professor of Classical Languages  
B.A., University of Richmond, 1903; M.A., 1904; Diplôme d'Études  
Françaises (Université de Grenoble et de Montpellier), 1921; Ph.D.,  
University of Chicago, 1928.
- COAD, FRANCIS E.....Assistant Professor of Law  
B.A., University of Oregon, 1929; J.D., 1931; LL.M., Columbia  
University, 1932.
- COGSWELL, ANDREW.....Assistant Professor of Journalism  
B.A., Montana State University, 1927.
- COLEMAN, RUFUS A.....Associate Professor of English  
B.A., Whitman College, 1909; M.A., Columbia University, 1914;  
Ph.D., Boston University, 1938.
- CORBIN, FRANCIS.....Professor Emeritus of English  
B.L., Ohio State College, 1902.
- CROWDER, JOHN B.....Professor of Music and Acting Dean  
of the School of Music  
B.A., University of Richmond, 1925; M.A., Eastman School of  
Music, 1938.
- DAHLBERG, GEORGE P.....Instructor in Physical Education;  
Basketball Coach; Assistant Football Coach  
B.A., Montana State University, 1925.
- DAMBRUN, ALBERT.....Instructor in Economics  
B.S., Duquesne University, 1936; M.A., Princeton University, 1939.
- DAUGHTERS, FREEMAN.....Professor of Education and Dean  
of the School of Education  
B.A., Kansas Normal College, 1896; S.T.B., Philadelphia Divinity  
School, 1903; M.A., Columbia University, 1915; Ed.D. (Honorary),  
Intermountain Union College, 1933.
- DEISS, CHARLES.....Professor of Geology  
B.A., Miami University, 1925; Ph.D., University of Michigan, 1928.
- DIETERT, REUBEN A.....Assistant Professor of Botany  
B.A., DePauw University, 1925; M.S., Michigan State College, 1927;  
Ph.D., State University of Iowa, 1937.
- DOUBLEDAY, NEAL F.....Instructor in English  
B.A., University of Wisconsin, 1930; M.A., 1933; Ph.D., 1938.
- DUGAN, EDWARD B.....Instructor in Journalism  
B.J., University of Missouri, 1932.
- EGBERT, RUBY E.....Library Cataloger,  
Instructor in Library Economy  
B.S., University of Washington, 1931; B.A., 1933.
- ELROD, MORTON J.....Professor Emeritus of Biology  
B.A., Simpson College, 1887; M.A., 1890; M.S., 1902; Ph.D., Il-  
linois Wesleyan University, 1905.
- ELY, ROY J. W.....Assistant Professor of Economics  
B.Sc., University of Nebraska, 1924; M.A., 1925; Ph.D., 1937.
- \*ENGLEMAN, IRVING H.....Associate Professor of Military  
Science and Tactics  
Lt. Col., U. S. Army; Graduate Infantry School, 1921; Quarter-  
master School, 1931; Army Industrial College, 1934.
- EPHRON, MARGUERITE HEINSCH (Mrs.).....Instructor in Latin  
and Humanities  
B.A., Montana State University, 1931; M.A., 1932.

\*Reported for duty June 1, 1940.

- \*FATZER, ALVA SMITH (Mrs.).....Instructor in Home Economics  
B.S., Kansas State College, 1937; M.S., State College of Washington, 1939.
- \*\*FEIGHNER, M. WINNIFRED.....Assistant Librarian, Assistant Professor of Library Economy.  
B.A., Montana State University, 1908; B.S., Simmons College, 1909.
- FERGUSON, MARY ELROD (Mrs.).....Assistant Dean for Women  
B.S., Montana State University, 1911; M.A., Columbia University, 1934.
- FESSENDEN, DOUGLAS A.....Professor of Physical Education; Director of Intercollegiate Athletics; Head Football Coach  
B.S., University of Illinois, 1927.
- FOX, GUY.....Instructor in Political Science  
B.A., Texas Christian University, 1929; M.A., Southern Methodist University, 1930.
- FREEMAN, EDMUND L.....Professor of English  
B.A., Missouri Wesleyan College, 1915; M.A., Northwestern University, 1924.
- GARLINGTON, J. C.....Instructor in Law and University Counsel  
B.A., LL.B., Montana State University, 1930.
- GILES, FRANCIS.....Assistant University Physician  
B.S., B.M., University of Minnesota, 1938; M.D., 1939.
- GLEASON, HELEN.....Professor of Home Economics  
B.S., Columbia University, 1922; M.A., 1927.
- GLENN, ARMON.....Secretary to the Committee on Admission and Graduation  
B.A., Montana State University, 1936.
- \*\*GRIFFITH, CAROLINE.....Corbin Hall Director and Assistant Director of Residence Halls  
B.A., Montana State University, 1931; M.A., Columbia University, 1937.
- HARDY, CHARLES W.....Instructor in Journalism and Press Foreman.
- \*\*\*HAYDON, LARRAE A.....Instructor in Dramatics and Director of Dramatics  
B.A., Carnegie Institute of Technology, 1930.
- HERTLER, CHARLES F.....Instructor in Physical Education  
B.P.E., Normal College of American Gymnastic Union, 1932; M.A., Columbia University, 1936.
- HESDORFFER, MEREDITH B.....Director of Health Service and Associate Professor of Public Health  
B.S., University of Minnesota, 1926; M.B., M.D., 1928.
- HETLER, DONALD M.....Professor of Bacteriology and Hygiene  
B.A., Kansas University, 1918; M.A., 1923; Ph.D., Yale University, 1926.
- HOFFMAN, RUDOLPH O.....Professor of French  
Ph.C., State University, Ghent, Belgium, 1910; M.A., University of Wisconsin, 1921; Diplôme Supérieur d'Études de Civilisation Française (Université de Paris), 1929.

\*Winter and Spring Quarters, 1939-40.

\*\*Leave of Absence, 1939-40.

\*\*\*Assistant Professor, 1940-41.

- \*HOLM, JAMES N.....Instructor in Speech  
B.A., Kent State University (Ohio), 1931; Ph.M., University of Wisconsin, 1937.
- HOPPLE, HOMER H.....Assistant in Military Science and Tactics  
Staff Sergeant, U. S. Army.
- HOUSMAN, ROBERT L.....Professor of Journalism and Executive  
Head of the School of Journalism  
B.J., University of Missouri, 1922; M.A., 1925; Ph.D., 1934.
- HOWARD, JOSEPH W.....Professor of Chemistry  
B.A., Shurtleff College, 1912; M.A., University of Illinois, 1913;  
Ph.D., 1915.
- JESSE, RICHARD H.....Professor of Chemistry, Dean of the Faculty,  
and Dean of the College of Arts and Sciences  
B.A., University of Missouri, 1902; M.A., Harvard University, 1907;  
Ph.D., 1909.
- JOHNSON, GLADYS E.....Acquisitions Librarian  
Diploma in L.S., University of Denver, 1936.
- JOHNSON, GRACE.....Manager, Montana Student Union  
B.A., Montana State University, 1934.
- JOHNSON, WILLIAM H.....Associate Professor of Military Science  
and Tactics  
Major, U. S. Army; Infantry School, 1926-27.
- JONES, ROBERT EDWARD.....Professor of Military Science and Tactics  
Colonel, U. S. Army; B.S., University of Maryland, 1909; B.S., St.  
John's College (Md.), 1909; M.S., 1923; Graduate Command and  
General Staff School, 1924.
- \*\*KEENEY, PHILIP O.....Professor of Library Economy and Librarian  
B.A., University of California, 1925; Certificate of Librarianship,  
1927; M.A., University of Michigan, 1930.
- KIRKWOOD, MAYWOOD.....Assistant in Military Science and Tactics  
Staff Sergeant, U. S. Army. Formerly Lieutenant of Infantry,  
National Army, 1918.
- KRAMER, JOSEPH.....Instructor in Botany  
B.S., University of Nebraska, 1921; M.A., 1923; Ph.D., 1936.
- LEAPHART, CHARLES W.....Professor of Law and Dean of the  
School of Law  
B.A., University of Missouri, 1905; M.A., 1906; LL.B., Harvard  
University, 1913; S.J.D., 1929.
- LENNES, N. J.....Professor of Mathematics  
B.S., University of Chicago, 1898; M.S., 1903; Ph.D., 1907.
- LESTER, JOHN.....Assistant Professor of Music  
B.A., B.M., Southwestern University (Texas), 1922.
- LINE, ROBERT C.....Professor of Business Administration  
and Dean of the School of Business Administration  
B.A., Montana State University, 1910; M.A., Harvard University,  
1912.
- LITTLE EDWARD M.....Associate Professor of Physics  
B.S., University of Washington, 1918; M.S., 1922; Ph.D., Univer-  
sity of Illinois, 1926.
- MCGINNIS, RALPH Y.....Instructor in Speech  
B.A., Kent State University (Ohio), 1932; M.A., Northwestern  
University, 1938.

\*Leave of Absence, 1939-40. Resigned, effective September 1, 1940.

\*\*Leave of Absence, January 1, to April 1, 1940. Resigned, effective April 1, 1940.

- \*McKEEL, CATHERINE.....Corbin Hall Director  
B.A., Montana State University, 1938.
- MACARTHUR, ELEANOR.....North Hall and New Hall Director  
B.A., Montana State University, 1930.
- MADDOCK, WILLIAM E.....Professor of Education  
B.L., Earlham College, 1894; B.A., Harvard University, 1904; M.A., Stanford University, 1922.
- MANSFIELD, MICHAEL J.....Instructor in History and Social Sciences  
B.A., Montana State University, 1933; M.A., 1934.
- MARKUS, DOROTHY.....South Hall Director  
B.A., Montana State University, 1938.
- MARVIN, EDWIN L.....Assistant Professor of Philosophy and Psychology and Director of Public Service Division  
B.A., Central College, 1921; M.A., Harvard University, 1923.
- \*\*MASON DAVID R.....Professor of Law  
LL.B., University of South Dakota, 1924; B.A., 1926; S.J.D., Harvard University, 1927.
- \*\*MERRIAM, HAROLD G.....Professor of English and Chairman of the Division of the Humanities  
B.A., University of Wyoming, 1905; B.A., Oxford University, England, 1907; M.A., 1912; Ph.D., Columbia University, 1939.
- MERRILL, A. S.....Professor of Mathematics and Chairman of the Division of Physical Sciences  
B.A., Colgate University, 1911; M.A., 1914; Ph.D., University of Chicago, 1916.
- MILLER, J. EARLE.....Professor of History and Political Science, Chairman of the Division of Social Sciences, and Dean of Men  
B.A., University of Kansas, 1910; LL.B., 1912; M.A., University of Illinois, 1914; Ph.D., 1917.
- MIRRIELES, LUCIA B.....Professor of English  
B.A., Stanford University, 1909; Ph.D., 1924.
- MOLLETT, CHARLES E. F.....Professor of Pharmacy and Dean of the School of Pharmacy  
Ph.C., University of Kansas, 1904; B.A., Montana State University, 1920; M.S., University of Kansas, 1927.
- MORRIS, MELVIN S.....Associate Professor of Forestry  
B.S., Colorado State College, 1930; M.S., 1932.
- MUHLICK, CLARENCE.....Nurseryman and Instructor in Forestry  
B.A., Montana State University, 1933.
- MURPHY, DENNIS.....Assistant Professor of English  
B.A., University of Missouri, 1926; M.A., 1927; Ph.D., State University of Iowa, 1936.
- O'BRIEN, DOROTHY (Mrs.).....Graduate Assistant in Physical Education  
B.A., University of Washington, 1927.
- PIETRO, JOSEPH N.....Assistant in Military Science and Tactics  
Staff Sergeant, U. S. Army
- PLATT, ANNE C.....Professor of Home Economics  
B.S., University of Washington, 1917; M.S., 1927.

\*South Hall Director, 1940-41.

\*\*Leave of Absence, 1939-40.

- \*POPE, WALTER L.....Professor of Law  
B.A., University of Nebraska, 1909; J.D., University of Chicago,  
1912.
- POTTER, ELLEN JANE.....Instructor in Physical Education  
B.E., University of California at Los Angeles, 1935; M.A., Uni-  
versity of Oregon, 1937.
- PRICE, GERARD F.....Lecturer in Social Work  
Ph.B., University of Chicago, 1932.
- RAMSKILL, BERNICE BERRY (Mrs.).....Associate Professor of Music
- RAMSKILL, J. H.....Professor of Forest Products  
B.A., Montana State University, 1927; M.F., Yale University, 1928.
- RICHARDS, LEON.....Associate Professor of Pharmacy  
Ph.C., University of Washington, 1925; B.S., 1926; M.S., 1928;  
Ph.D., 1932.
- ROHOLT, OLIVER.....Graduate Assistant in Bacteriology and Hygiene  
B.A., Montana State University, 1939.
- ROWE, JESSE P.....Professor of Geology  
B.S., University of Nebraska, 1897; M.A., 1903; Ph.D., 1906; D.Sc.  
(Honorary), 1935.
- RUSSEL, CHARLOTTE.....Librarian, Law Library
- SANDVIG, MAUDA P. (Mrs.).....Serials Librarian  
B.A., University of California, 1922; M.A., 1923; B.S. Columbia  
University, 1928.
- SANFORD, EMMETT R.....Professor of Business Administration  
B.A., Montana State University, 1918; M.A., University of Califor-  
nia., C.P.A. (California), 1925.
- SCHEUCH, FREDERICK C.....President Emeritus and Professor  
Emeritus of Modern Languages  
M.E., Purdue University, 1893; A.C., 1894.
- \*\*SCHLUETER, RUDOLPH J.....Assistant Professor of German  
B.A., Northwestern College, 1921; M.A., University of Wisconsin,  
1926; Ph.D., 1934.
- SCHREIBER, WILLIAM E.....Professor of Physical Education  
B.A., University of Wisconsin, 1904.
- SCHWEITZER, ROSSI M. (Mrs.).....Social Director of North Hall
- SEVERY, JOSEPH W.....Professor of Botany,  
Chairman of the Division of Biological Sciences, and Vice President  
B.A., Oberlin College, 1915; M.S., Washington University, 1926;  
Ph.D., University of Wisconsin, 1931.
- SHALLENBERGER, GARVIN D.....Professor of Physics,  
Director of Placement Bureau, Director of Summer Session  
B.S., Oklahoma A. & M. College, 1912; B.S., Tulane University,  
1917; M.S., 1919; Ph.D., University of Chicago, 1923.
- SIMMONS, GEORGE FINLAY.....President and Professor of Zoology  
B.A., University of Texas, 1921; M.A., 1922; Ph.D., University of  
Chicago, 1934.
- \*\*\*SLATER, EVELYN.....Instructor in Home Economics  
B.S., University of Kentucky, 1926; M.S., 1932.
- SMITH, FLORENCE R. (Mrs.).....Professor of Organ and Accompanist

\*Leave of Absence, 1939-41.

\*\*Leave of Absence, 1940-41.

\*\*\*Autumn Quarter, 1939-40.

- SMITH, FRANKLIN O.....Professor of Psychology and Philosophy  
B.A., State University of Iowa, 1906; M.A., 1907; Ph.D., 1912.
- SMITH RUSSELL E.....Instructor in Law  
LL.B., Montana State University, 1931.
- SPAULDING, THOMAS C.....Professor of Forestry, Dean of the  
School of Forestry, and Director of Forest and Conservation  
Experiment Station  
B.S., Montana State University, 1906; M.S.F., University of Mich-  
igan, 1909.
- SPEER, JAMES B.....Registrar, Business Manager, and  
Professor of Business Administration  
B.A., Montana State University, 1908; LL.B., University of Mich-  
igan, 1916.
- SPEER, LUCILE.....Documents Librarian, Instructor in Library Economy  
B.A., Montana State University, 1924; M.A., University of Chicago,  
1925.
- STONE, ARTHUR L.....Professor of Journalism and Dean of the  
School of Journalism  
B.S., Worcester Polytechnic, 1884.
- SUCHY, JOHN F.....Associate Professor of Pharmacy  
Ph.C., B.S., Montana State University, 1917; M.S., University of  
Colorado, 1927; Ph.D., 1934.
- SWEARINGEN, MONICA BURKE (Mrs.).....Director of Residence Halls and  
Professor of Home Economics  
B.A., Montana State University, 1918; M.A., Columbia University,  
1924.
- SWEARINGEN, THOMAS G.....Maintenance Engineer and Assistant  
Professor of Forest Engineering  
B.A., Montana State University, 1920.
- TASCHER, HAROLD.....Assistant Professor of Sociology  
B.A., University of Illinois, 1925; M.A., 1926; Ph.D., 1932.
- TEEL, STANLEY M.....Associate Professor of Music  
B.Mus., DePauw University, 1925.
- THIBODEAU, GLADYS (R.N.).....University Nurse
- THOMAS, BART E.....Professor of Spanish  
B.S., Wisconsin State Teachers' College, 1901; B.A., Montana State  
University, 1924; Ph.D., University of Wisconsin, 1937.
- THOMPSON, MILTON M.....Associate Professor of Law  
B.A., Des Moines University, 1927; J.D., University of Michigan,  
1930; LL.M., Columbia University, 1934.
- TOELLE, J. HOWARD.....Dixon Professor of Law  
B.A., Indiana University, 1913; LL.B., Columbia University, 1914;  
M.A., 1916; LL.M., Harvard University, 1925.
- TURNER, MRS. FRANK.....Social Director of New Hall
- \*TURNER, A. P. L.....Associate Professor of Economics  
B.A., Harvard University, 1930; M.A., 1933; Ph.D., 1935.
- TURNER-HIGH, HARRY.....Professor of Anthropology and Sociology  
B.A., St. Stephen's College, 1922; M.A., University of Wisconsin,  
1924; Ph.D., 1928.

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\*Leave of Absence, 1939-41.



- WATERS, CHARLES W.....Professor of Forestry and Botany  
B.S., B.L., Berea College, 1919; M.A., Ohio State University, 1921;  
Ph.D., University of Michigan, 1927.
- WEISBERG, A. HERMAN.....Professor of Violin and Orchestra Director
- WEISBERG, FLORA B. (Mrs.).....Assistant Professor of German  
B.A., Montana State University, 1928.
- WENDT, RUDOLPH.....Instructor in Music  
B.M. (Piano Pedagogy), Eastman School of Music, 1936; B.M.  
(Piano Performer), 1937.
- \*WHICKER, H. W.....Instructor in English  
B.A., State College of Washington, 1922.
- WHITE, M. CATHERINE.....Reference Librarian, Assistant  
Professor of Library Economy  
B.A., Montana State University, 1927.
- WILHELM, HENRIETTA L.....Assistant Registrar  
B.A., Montana State University, 1925.
- WILSON, BRENDA FARRELL (Mrs.).....Instructor in Business Administration  
B.A., Montana State University, 1932; M.A., University of Southern  
California, 1939.
- WRIGHT, PHILIP L.....Instructor in Zoology  
B.S., University of New Hampshire, 1935; M.S., 1937.
- \*YPHANTIS, GEORGE.....Assistant Professor of Fine Arts  
B.A., University of Toronto, 1926; B.F.A., Yale University, 1930.

### Special Appointments for Summer Session, 1940

- ARNOLD, CHARLES, B.S., M.M.....Visiting Professor of Music
- BJORK, RAY, B.A., M.A.....Visiting Professor of Education
- CUTTS, CHARLES R., B.M., B.A.....Visiting Instructor in Music
- ELLIS, LEON HUBBARD, B.A., LL.B., Ph.D.....Visiting Professor of  
History and Political Science
- GRIFFIS, NELLE PORTER (Mrs.), B.A.....Recreational Director,  
High School Music School
- HOFF, ARTHUR G., B.E., M.A., Ph.D.....Visiting Professor of Education
- KRUEGER, FRITZ, B.S. Ed., B.A., B.M.....Visiting Professor of Music
- MCLAUGHLIN, S. J., B.A., M.A., Ph.D.....Visiting Professor of Education
- OAKLAND, LLOYD C., B.M., M.Mus.....Visiting Professor of Music
- PARK, MAXWELL G., Ph.B., M.A., Ph.D.....Visiting Professor of Education
- SCHEFFER, JOHN.....Visiting Professor of English
- TEMPLETON, PAYNE, B.A., M.A.....Visiting Professor of Education
- TUPPER, CHARLES R., B.A., M.A., Ph.D.....Visiting Professor of Education

### Montana State Board of Examiners in Accountancy

- DUVALL, GEORGE F., C.P.A., Missoula, Chairman
- WALDEN, HOWARD C., C.P.A., Helena, Secretary
- ROWLAND, ALFRED J., C.P.A., Miles City

\*Resigned, effective January 1, 1940.

\*\*Leave of Absence, 1939-40.

# THE UNIVERSITY OF MONTANA

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A congressional grant was made in 1881 of seventy-two sections of the public domain for University purposes in Montana, and an additional congressional grant was made in 1889 of 100,000 acres for a school of mines, 100,000 acres for normal schools, and 140,000 acres for an agricultural college. The third Legislative Assembly of the state of Montana enacted laws in 1893 to establish the State University at Missoula, the State College at Bozeman, the State Normal College at Dillon, and the Montana School of Mines at Butte.

As the lands, or the timber and stone thereon, have been sold, the proceeds have gone into permanent funds, the interest on which, together with rentals of unsold lands, has been used for the support of the respective institutions. Each subsequent Legislative Assembly has voted appropriations to supplement those maintenance resources, and several assemblies have provided for the erection of new buildings.

In 1913 the four institutions were combined into the University of Montana under the executive control of an officer whose title is Chancellor. Edward C. Elliott of the University of Wisconsin, first Chancellor of the University of Montana, was appointed by the State Board of Education in 1915. He held the office until 1923, when he was succeeded by Melvin A. Brannon, former president of Beloit (Wisconsin) College. Dr. Brannon resigned July 1, 1933. Dr. H. H. Swain, executive secretary of the State Board of Education, has his office in the State Capitol, Helena.

The Legislative Assembly of 1925 provided for the organization of the Eastern Montana State Normal School at Billings as the fifth unit of the University of Montana. A sixth unit, the Northern Montana College at Havre, was opened September 24, 1929.

In November, 1930, the voters approved a measure adopted by the twenty-first Legislative Assembly which permits, during the succeeding ten years, an annual levy of a tax not exceeding three mills for maintenance of the University of Montana.

## Montana State University

Montana State University, located in Missoula, was formally opened in 1895. The local board was made up of J. H. T. Ryman, Hiram Knowles, and Thomas C. Marshall.

The campus site was donated to the state by Edward L. Bonner and Frances G. Higgins of Missoula. In 1897 the Legislature authorized the issuance of bonds, in the amount of \$100,000, for construction purposes. With these funds University Hall and Science Hall were constructed. They were completed in 1899, at which time the State University occupied its permanent quarters. In 1901 an additional bond issue was authorized to construct Craig Hall and the Women's Gymnasium. In 1907 the Library building, now occupied by the Law School, was completed.

Oscar J. Craig of Purdue University was the first president. During his administration, from 1895 to 1908, Montana State University made remarkable progress. The faculty increased from five to thirty, and the proportional increase in the number of students was even greater.

In 1908 Clyde A. Duniway of Stanford University became president, and carried on a policy of vigorous development. The School of Law was established and the Summer Session was made a part of the State University.

Edwin B. Craighead, for eight years president of Tulane University, succeeded to the presidency in 1912. During the next few years Business Administration, Journalism, Pharmacy, Home Economics, and Forestry were added to the schools and departments of the State University.

From 1915 until the summer of 1917, Professor Frederick C. Scheuch, now president emeritus and professor emeritus of modern languages, was acting president. Edward O. Sisson, who had been State Commissioner of Education in Idaho, was appointed president in 1917, and served until 1921. Upon Dr. Sisson's resignation, Charles H. Clapp was appointed. He served until his death on May 9, 1935.

Professor Scheuch again served as acting president until January 1, 1936, when the presidency was assumed by Geo. Finlay Simmons, a zoologist and explorer, formerly with the University of Texas and the Cleveland Museum of Natural History, who was engaged in experimental research at the University of Chicago when called to Montana State University in the autumn of 1934.

From 1934 to the present time six new buildings have been erected on the campus, new equipment has been added and old equipment improved. The faculty has increased to one hundred twenty-three, ninety-one on the teaching staff and thirty-two on administration and service; enrollment has greatly increased; courses of instruction have been expanded and strengthened, and scholarship standards have been raised.

**Accreditation.** Montana State University is on the accredited list of the Association of American Universities and the Northwest Association of Secondary and Higher Schools.

**Surroundings and Campus.** Montana State University is situated at Missoula, county seat of Missoula county, and principal city in western Montana. The city is easily reached by the main lines of the Northern Pacific and the Chicago, Milwaukee, St. Paul & Pacific railroads. In addition, there are branch lines from the Coeur d'Alenes, and the Bitterroot and Flathead valleys. Missoula is on the Yellowstone Trail (U. S. Highway No. 10), the International Parks Highway, and the main line of the Northwest Airlines.

Missoula is a pleasant residence city with a population of twenty-one thousand. It has an excellent climate and unsurpassed health conditions. Many miles of paved streets and bus lines make the campus of the University accessible from any part of the city. The surrounding country is a beautiful region of mountain ranges, easily reached by rail or auto, and furnishing excellent opportunity for recreation.

The campus, which has an area of approximately 100 acres, lies southeast of the town and at the foot of Mount Sentinel. In addition the University owns 520 acres extending from the campus to the summit of the mountain, an elevation of 2,000 feet above the campus.

The value of buildings, equipment and ground is approximately three and a quarter million dollars.

**The Library and Museums.** The general library, consisting of about 235,000 volumes, is housed in the Library building. The faculty and library staff of the University have free access to the stacks. Any undergraduate or graduate student may obtain "stack permission" for one year by securing the signature of a faculty member and the ap-

proval of the librarian on a pass card to the stacks. Any reputable person not connected with the University may obtain admittance to the stacks by receiving the signature of the librarian on a pass card.

The Library receives over 600 periodicals, the current numbers of which are available in the reading room, as are newspapers and college exchanges.

The biological collections of Montana State University, established in 1898, are on the second floor of the Natural Science building. Special attention has been given to local fauna and flora of the state.

The rocks, fossils, coals, minerals, and ores are housed in the Department of Geology in Main Hall.

The herbarium is in the Department of Botany, adjoining the museum in the Natural Science building.

The Treasure Room, for valuable historical and archaeological materials, is on the third floor of the Journalism building.

The people of the state are invited to inquire about the loan facilities of the Library, to visit the museums, and to make contributions to the Library and museums. All donations will be acknowledged and recorded under the donor's name. The articles will be properly labeled and preserved.

## Requirements for Admission

*Students applying for admission should send in the following credentials:*

- (a) An original transcript of high school credits, signed by the principal.*
- (b) Official transcript from each college attended.*
- (c) Statement of honorable dismissal from the last college regularly attended.*
- (d) An application for admission filled out on a form provided by Montana State University.*

*Certificates and transcripts of records relating to admission should be sent to the Registrar a month in advance of registration so that there will be ample time for notice of acceptance for admission to the University. Prompt attendance to these details will avoid delay and the additional expense of telegraphing. Delay in sending certificates is likely to cause difficulty in registration, and frequently makes it impossible for the student to enroll in classes to which he might otherwise be admitted.*

*Applicants for admission who fail to present proper certificates will not be admitted to registration. Forms for applying for admission may be obtained on application to the Registrar.*

### General Admission

Applicants for admission must be at least sixteen years of age, and must present evidence of good moral character.

The completion of a high school or preparatory course of four years, including at least fifteen units of work, is the standard for regular admission. A unit is the amount of work represented by the successful completion of one subject pursued for a school year of not less than thirty-six weeks, with five recitations per week, each recitation period being not less than forty-two minutes net. Two periods of laboratory, shop, or drawing work count as one recitation.

Students entering since September 1, 1927, must offer three units of English, one of American history and government and at least two other units from each of three of the following groups: (a) mathematics: algebra, plane and solid geometry, trigonometry, general mathematics; (b) history and social science: Greek, Roman, medieval, modern or English history, civics, community civics, economics, sociology, citizenship, economic or industrial history, occupations, high school geography; (c) laboratory science: physics, chemistry, biology, botany, zoology, physiology, agriculture, astronomy, geology, physiography, general science, domestic science; (d) foreign languages.

Note: If the civics is included in the one unit of American history and government, it may not be used to satisfy requirement (b). The two units offered in satisfaction of requirement (d) must be in one language.

Students who have not completed these required courses must: (1) pass an entrance examination in the subject in which they are deficient; or (2) earn eight college credits in the subject in which they are deficient, in addition to any college work in that subject required for a degree. Such credits may be counted toward the degree. Students must remove all entrance deficiencies during their first year of attendance.

*Students transferring from other colleges will be required to meet these requirements.*

#### **Admission on Certificate**

Graduates of any Montana high school or academy fully accredited by the State Board of Education, or of any high school or academy in another state accredited by the North Central Association or the Northwest Association, are admitted to regular standing by the presentation of an official certificate of graduation.

Graduates of any other secondary schools outside of Montana are admitted under similar conditions, if the school maintains, on the basis of regular inspection, accredited relationship with the state university or other university within the state included in the membership of the Association of American Universities.

#### **Admission by Examination**

Any person not a graduate of an accredited high school must, in order to be admitted to regular standing, pass satisfactory examinations on not less than fifteen units\* of secondary school work; provided that any graduate of a Montana high school accredited by the State Board of Education for the work of only one, two, or three years, may receive entrance credit without examinations upon such work as has been successfully completed in such accredited courses, as shown by official certificates.

Those who expect to take entrance examinations must notify the Registrar in advance, stating what subjects they desire to offer by examination. For the academic year 1940-41 the examination days are September 16 and 17, and for the winter and spring quarters by special arrangement.

#### **Conditional Admission**

The entrance requirement of graduation from a four years' accredited high school course may be modified in individual cases by permit-

\*These fifteen units must include the required subjects listed on page 15. A student offering foreign languages as a part of his preparation must present at least two units in one language.

ting the conditional admission of a student if he has at least fifteen entrance units and has been in regular attendance in a fully accredited high school for four years. To acquire regular standing such a student must present a total of sixteen entrance units. He must make up the number lacking in one year from the date of his first registration.

### **Admission by Transfer from Other Units of the University of Montana**

All credits earned in any unit of the University of Montana may be transferred to any other of the institutions and the full face value of such credits will be placed upon the records of the second institution. This does not, however, relieve the student from fulfilling the institutional requirements for graduation at the second institution. A number of highly specialized curricula are offered at the various units of the University of Montana; consequently a student who changes his objective either while continuing in an institution or in changing from one institution to another, must expect to lose time thereby.

Students transferring from one unit to another after the successful completion of a two year's course of junior college rank to the senior college of another institution may not use excess credits gained in the junior college to decrease the two years usually required to complete the senior college work.

A student suspended or dropped from one of the other institutions of the University of Montana will not be considered for admission without the approval of the president of the institution from which he was suspended or dropped.

### **Admission by Transfer from Other Colleges and Universities**

Students from other colleges and universities of recognized standing will be admitted on presentation of certificates from the registrar that they have completed the regular entrance requirements, and are eligible to return. Credit will be given for work of collegiate grade done in other institutions of approved standing. In addition to the transcript of college record, the student must also present a transcript of his secondary school work.

Graduates of an approved two-year normal course requiring fifteen units for entrance are admitted to junior standing. Students who complete only part of the two-year normal college course may receive credit in the University for such work as may be found to represent the equivalent of courses required or permitted as electives in the University.

When credits are accepted from another college, grade points are evaluated at the time of transfer (see pages 22 and 27). Students entering with fewer grade points than credits must earn enough additional grade points at Montana State University to satisfy the grade point requirement for graduation. A transfer student must meet the grade point requirement on credits earned at Montana State University as well as on his entire record.

### **Admission of Special Students**

Persons 21 years of age or over (**not** graduates of high schools) who cannot offer all of the requirements for admission and who are not candidates for degrees may be admitted as special students without the usual entrance units upon passing general intelligence and English placement tests, and upon submitting satisfactory evidence that they are prepared to pursue successfully the courses open to them. Such students are required to select courses open only to freshmen and sophomores unless they show preparation and aptitude in particular fields.



Special students are permitted to continue in the University only in case they carry the work satisfactorily. If it becomes evident that they are unable to carry university work, their relations with the University may be severed at any time. In order to be able to register for a fourth or any succeeding quarter as a special student, the sum of the student's grade points (both positive and negative) must be at least equal to the total number of credits earned. See "Grade Points," page 27.

A special student may acquire status as a regular student and become a candidate for a degree either by taking entrance examinations, or by transferring to entrance credit sufficient credits earned in the University to make up all entrance units required for admission to regular standing, including the subjects listed on page 16. Before the student may register for his seventh quarter of residence, not including summer sessions, **he must make up all entrance units required for admission to regular standing.** The Registrar's office shall at that time transfer to entrance credit as many University credits as are necessary for such purpose at the rate of eight college credits for one entrance unit. In order to be eligible for a degree from Montana State University a special student must fulfill the same requirements for graduation as a regular student.

*Special students must file application for admission on a form provided for this purpose, which may be obtained from the Registrar. This application must include certificates of such preparatory work as the applicant has done.*

#### **Ineligibility for Admission to Junior Class**

A student who, at the end of the quarter in which he acquired 90-96 credits (dependent upon requirement in physical education), has a deficiency of 20 or more grade points, shall not be admitted to further work in Montana State University.

#### **Admission to Graduate Standing**

Candidates for admission to graduate standing must have a Bachelor's degree from Montana State University or from another institution of approved standing. Admission to candidacy for the Master's degree is granted by the Graduate Committee to students, who, in addition to holding the baccalaureate degree from an institution of approved standing, have completed the requisite undergraduate work in the departments in which they wish to do graduate work and are enrolled in an approved schedule of graduate courses.

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## **Requirements for Graduation**

### **Degrees and Certificates**

The Bachelor's degree is awarded to regular students who complete the courses offered by Montana State University and who fulfill the other conditions required for graduation.

The College of Arts and Sciences confers upon its graduates the Degree of Bachelor of Arts, Bachelor of Science in Medical Technology, or Bachelor of Science in Nursing. Students doing major work in Law may also secure the Bachelor of Arts degree by meeting the requirements of the College of Arts and Sciences.

The degree of Bachelor of Arts in Business Administration is conferred upon graduates of the School of Business Administration.

The degree of Bachelor of Arts in Education is conferred upon graduates of the School of Education.

The degree of Bachelor of Arts in Journalism is conferred upon graduates of the School of Journalism.

The degree of Bachelor of Music is conferred upon graduates of the School of Music.

The degree of Bachelor of Laws is conferred upon graduates of the School of Law who have previously completed two years of college work.

The degree of Bachelor of Science in Forestry is conferred upon graduates of the School of Forestry.

The degree of Bachelor of Science in Pharmacy is conferred upon graduates of the School of Pharmacy.

The University certificate of qualification to teach may be obtained by graduates of Montana State University who meet the requirements set forth in the School of Education.

The Montana State University also issues a certificate for public accountancy under specified conditions (see School of Business Administration).

The degrees of Master of Arts, Master of Science in Forestry, Master of Science in Pharmacy, and Master of Science with a combined major in Botany and Forestry are granted to those who complete a satisfactory course of at least one year in work beyond that required for a Bachelor's degree provided they comply with the regulations governing graduate work set forth on page 80.

The Master of Education degree is granted to those who, in addition to completing a minimum period of teaching and at least one year of work beyond that for a Bachelor's degree, offer additional graduate work in lieu of a thesis. See page 81.

### **Candidacy for a Degree**

Students of the University who are admitted as candidates for a degree must have satisfied the following conditions: (a) they must have fulfilled the entrance requirements of regular students; (b) they must complete the general University requirements shown in the following paragraphs. Students who are candidates for a degree or certificate must file formal application with the Registrar on the date specified on Official University Notices (at least one quarter preceding the quarter in which requirements are to be completed).

### **Credits Required for Graduation**

The work in Montana State University is named in terms of credit. One credit represents three hours of time per week for one quarter of twelve weeks. The time required for each credit may be distributed in any combination among preparation, recitation, lecture, or laboratory work.

**Credits Required for a Degree.** Candidates for the degree of Bachelor of Arts, Bachelor of Arts in Business Administration, Bachelor of Arts in Education, Bachelor of Arts in Journalism, Bachelor of Music, or Bachelor of Science in Pharmacy are required to complete 180 credits in addition to the required credits in Physical Education. Candidates for the degree of Bachelor of Science in Forestry must complete 186 credits in addition to two summers of approved field work and the regular requirements in Physical Education and Military Science. Candidates for the degree of Bachelor of Laws must complete three years

of Law, totaling 126 credits, in addition to the entrance requirements of the School of Law.

**Credits Required for a Major.** A department or school may require that the major students complete from 40 to 55 credits in the chosen field. Not more than 65 credits in any one department or school, including 5 credits earned in survey courses given in the Division, may be counted toward graduation. These rulings do not apply in the Schools of Forestry, Journalism, Law, Music, or Pharmacy. Exceptions to these regulations may be made on the basis of entrance credits in the Departments of Modern and Classical Languages and Mathematics. Not more than 65 credits in one foreign language, nor more than 90 credits in all foreign languages, may be counted toward graduation. Not more than 90 credits of English, Dramatics and Speech (exclusive of English 105) for a combined major and teaching minor may be counted toward graduation. Not more than 21 credits in Military Science, nor 15 credits in Religion may be counted toward graduation. Except in the School of Music, not more than 12 credits in applied music nor 6 credits in ensemble music may be counted toward graduation.

### Course Requirements for Graduation

**Required Courses.** All candidates for the Bachelor's degree must meet the following requirements.

- (1) Physical Education, 6 quarters (6 credits) required of all freshmen and sophomores less than 27 years of age, unless excused for cause.
- (2) Military Drill, 6 quarters (6 credits) required of all freshmen and sophomore men less than 26 years of age, unless excused for cause.
- (3) English Composition, 2 quarters (6 credits). During Freshman Week all freshmen must take a placement examination in English composition. Students who achieve distinction in this examination will be excused from the necessity of taking the first quarter of required composition, 11a, and during their sophomore year may enroll in any of the three courses 11b, 30a, or 30b. Students failing to attain an acceptable college standard in this placement examination will be required to take English A without credit during their freshman year before enrolling in English 11a during the sophomore year. Both quarters of required composition, English 11ab, must be taken in the sophomore year, preferably consecutively. English 11ab may not be taken in the freshman year. Students who obtain a grade of A in English 11a will be exempted from the requirement of the second quarter.

**Restricted Elective Courses.** All candidates for the Bachelor's degree, except candidates for the degree of Bachelor of Laws, Bachelor of Science in Forestry, or Bachelor of Music must meet the following requirements, unless otherwise indicated:

- (1) Two of the following general courses must be completed: Social Science 11abc, Biological Science 13abc, Humanities 15abc, Physical Science 17abc. Five of the credits earned in survey courses given in the division (whether the course was taken for one, two, or three quarters) are included in the maximum of 65 credits allowed in any one department. This requirement may be waived for transfer students entering Montana State University with junior standing. Completion of courses 13abc or 17abc, 11abc, 15abc also satisfies the

specific requirements under (3), (4), and (5), respectively, as listed below.

- (2) Classical or modern language, 5 quarters (23 to 25 credits) in one language or a reading knowledge of it, subject to the following conditions:

Entrance credit in modern or classical language may be offered in satisfaction of this requirement, one unit being regarded as equivalent to two quarters of university work. Thus students who enter with one unit of language are normally required to complete only three quarters of the same language in the University; those who enter with two units, one quarter; and those who enter with three or more units in one foreign language shall be regarded as having fulfilled all foreign language requirements for graduation upon passing a reading test at the University. However, all students desiring to offer entrance credit in fulfillment of or toward this requirement or who wish to take further work in a language offered for entrance must take a placement examination preferably at the time of entrance, during Freshman Week. Those who are found by the placement examination to be unprepared for the class for which they are normally eligible will be placed in a lower class; such students may receive credit for only one quarter of a foreign language below the class for which their entrance credits would normally prepare them.

A reading knowledge of a foreign language at the level of attainment expected of a student who has passed at least four quarters in a language as demonstrated by a suitable achievement test will be accepted as satisfying the foreign language requirement for graduation.

Foreign languages will not be required in the Schools of Business Administration, Education, Journalism, and Music.

- (3) Botany, Chemistry, Geology, Mathematics, Physics, Zoology; 3 quarters (12 credits, eight of which must be in one science or in mathematics) or one of the general courses, Biological Science 13abc, Introduction to Biological Science, and Physical Science 17abc, Introduction to Physical Science. The combined sciences for high school and the University must include not less than two different sciences of this group. In each of these two sciences the student must offer not less than one unit or eight credits. With the exception of the two general courses, science subjects in which laboratory work is not required shall not be considered as satisfying the restricted elective requirement in science. The amount of laboratory work necessary to the courses for fulfillment of the requirement is one laboratory period of not less than two hours per week.
- (4) Economics, History, Political Science, Sociology; 2 quarters (8 credits) or the course, Social Science 11abc, Introduction to Social Science.
- (5) English Literature, Philosophy, Psychology; 2 quarters (8 credits) or the course, Humanities 15abc, Introduction to the Humanities.

**Elective Courses.** The remainder of the credits required for graduation after the restricted electives and the divisional and major requirements have been completed are free electives.

### **Divisional, Departmental, and School Requirements for Graduation**

All candidates for a Bachelor's degree must comply with any requirements announced by the college or school from which the degree is to be granted, in addition to the general requirements included under "Requirements for Graduation."

#### **Grade Points Required for Graduation**

**First Period.** A candidate for a degree or certificate granted by Montana State University must at the time of his candidacy have obtained a number of grade points at least equal to the number of credits earned on courses taken to the end of the quarter in which he earns his 90-96th credit (i.e., over his freshman and sophomore years). This is equivalent to an average grade of C in all courses for which he has received credit. Grade points are computed as follows; 3 grade points for each credit of A; 2 grade points for each credit of B; 1 grade point for each credit of C. In a subject in which an "incomplete" grade has been received, grade points are counted only after the incomplete has been removed.

**Second Period.** In the period succeeding the quarter in which the student receives his 90-96th credit (i.e., junior and senior years), he must obtain as many grade points as credits for which he has registered. **Note:** When a student has once entered the second period he cannot in any way (by repetition, duplication, etc.) be changed back into the first period. An incomplete or condition received in the first period and removed or allowed to revert to an F during the second period, will be included in the record of the second period. Courses dropped without a grade (i.e., courses in which a "W" is given) are not counted. Courses graded F (failure), I (unremoved incomplete), E (condition), are given one negative grade point (-1) per credit. The negative grade points must be subtracted from the positive grade points earned to determine the number of grade points acquired toward meeting this requirement. In the case that a student who has failed to make a C average during the first period is admitted to the second period (see page 18), he must make up the deficiency under the regulations which are in force during the second period. However, deficiencies made in the second period cannot be removed by applying excess grade points earned in the first period.

When credits are accepted from another institution, grade points are evaluated at the time of transfer; however, a student must meet the above requirement on credits earned at Montana State University as well as on his entire record.

#### **Residence Requirements for Graduation**

1. One year of residence, or four summer sessions of nine weeks each, at Montana State University, during which the student must complete 45 credits of college work, is the minimum requirement.
2. Thirty-five of the last 45 credits required for graduation must be earned in residence in the University.
3. Not more than 45 credits earned by correspondence study may be counted toward graduation.

#### **Senior Examinations**

1. All students, before receiving the Bachelor's degree from Montana State University, may be required by the school or department in which they are majoring, to pass a special examination to be known as "Senior Examination" covering the field of concentration. Such ex-

amination shall not in any way replace the regular quarterly examination except that departments adopting these Senior Examinations may excuse their major students during the senior year from regular quarterly examinations in major department subjects. Each department or school must announce its intention with regard to Senior Examinations in the catalogue.

2. The field of concentration shall include the total major requirements and such additional subjects as the major department or school may determine. It is to be understood that the questions asked are not to be limited to the courses taken.

3. The examination shall be a written examination of at least three hours, and in addition further oral or written examinations may be given.

4. The examination in each case shall be in charge of the major department or school concerned. Such parts of the examination as lie outside of the major subjects shall be furnished by the departments whose work is represented.

5. The examinations shall be given in the last quarter of senior residence and may be arranged in each department or school at the convenience of the persons concerned. Reports on such examinations shall be made to the Registrar not less than four weeks prior to the close of the quarter.

6. The same grades shall apply as in the quarterly examinations. If a student fails to pass this special examination he shall be given another opportunity within six months without the necessity of taking additional courses. In case of a second failure further opportunity will be granted at the discretion of the department or school concerned and the Committee on Admission and Graduation.

### Senior Examinations for Honors

A student who desires to become a candidate for honors must at the beginning of his last quarter have an average of two grade points for every credit for which a grade has been received; upon application within thirty days from the beginning of the quarter he shall be entitled to take senior examinations in his major department; he shall be awarded honors if he passes these examinations with a grade of A or B.

Students who transfer credits earned elsewhere to this University must meet the above scholastic index on credits earned at Montana State University as well as on the entire record.

## Registration

Not later than the junior year, every student must choose a major department or school. Regular students are required to follow a curriculum so that they will normally complete all the required courses and restricted electives by the end of their junior year. A student's registration is subject to the approval of an appointed faculty adviser until choice of a major department or school has been made; after this choice, the head of the department or school selected becomes the adviser.

**Independent Work.** Credit is allowed superior students of junior and senior standing for independent work in topics or problems chosen by themselves with the approval of the departments concerned and with the supervision of instructors. Such work must be registered for at the beginning of a quarter. The student cannot obtain a larger



number of credits than he is registered for, but a smaller number may be completed and credit obtained upon the instructor's approval.

**Rules Regarding Registration.** Students in all divisions of Montana State University, except those registered in an approved curriculum shown in a Division or School, must follow the regulations outlined in the following table:

Classification of Student	Number of Courses Allowed*	Restricted Elective Requirement (See page 20)††	Maximum Credit**
		In Addition to Required Phys. Ed. and Mil. Sci.	
Freshmen	3	2 courses from 2 different groups	15+2 Cr. †
Sophomores	4	1 course	17+1 Cr. †
Juniors	no limit	1 course until requirements are completed	16
Seniors	no limit	1 course until requirements are completed	16

\*Exclusive of the required physical education and military science and optional applied music. Two courses in theoretical music to a maximum of 5 credits are counted as one course.

\*\*Juniors or seniors of distinctive ability may be permitted by their adviser to register for 18 credits.

†These 2 credits may be in applied or ensemble music, or in applied acting and stagecraft, or in a combination of these courses, and are permitted only when the student maintained a C average during the previous quarter in residence. Note that in the sophomore year **only one credit** in the applied courses listed above may be permitted in addition to the regular 17 credits.

††During a quarter in which a student is registered for required English, he may register for one less than the normal number of restricted elective courses.

## Freshman Week

The first week of the autumn quarter is set aside exclusively for freshmen. They register during that week and are given the opportunity to become acquainted with the ways of university life; instruction in the use of the library is given, and everything practicable is done to prepare the freshman for his college course. No regular classes are held.

Freshman Week grew out of the need of making the transition from high school to college as smooth as possible, and the desirability of giving the freshman an idea of the proper attitude to be taken toward his college work. This is accomplished by giving the freshman time to become acquainted with the campus and the proper use of equipment before instruction begins. Methods and practice of college study are explained in order that, from the beginning, the student may obtain more from his courses.

## Scholarship and Conduct

The University requires all its students to conform to the usual standards of society and law-abiding citizenship, and to manifest a serious purpose by maintaining satisfactory standing in the courses which they undertake. No student is permitted to continue his connection with the University who shows persistent unwillingness or inability to comply with these requirements.

The Student Handbook, which is published for the guidance of students, is an official memorandum of requirements. *The student is held responsible for a knowledge of its contents.*

### Deans of Men and Women

The deans have general supervision and, subject to the rules of the faculty, final authority over scholarship honors and deficiencies, student affairs, the conduct, manner of living, and all other matters pertaining to the welfare of students. They are always ready to render any help in their power to any student, either in educational or personal matters. They work through instructors and advisers in scholarship matters, but in personal affairs they are always accessible to the student who desires conference or counsel.

### Social Functions of the University

The approval of the Dean of Women is obtained for all social functions of student organizations at which women are present. The Dean of Women sees that approved chaperons are provided and schedules these functions for Friday and Saturday evenings only.

### Advisers

Upon registration at Montana State University, each student is assigned to a faculty adviser. The assignment is made on the basis of the student's probable field of major endeavor. The adviser assists the student in the selection and arrangement of his course of study, and acts in an advisory capacity only; his approval of a student's registration does not legalize a change in faculty rules. In the professional schools the deans act as advisers of the students. In the College of Arts and Sciences, after the student has selected a major department (at the beginning of his junior year), the chairman of that department regularly becomes his adviser throughout his university work. The adviser is always ready to counsel with the student in any matter, whether or not directly connected with his work in the institution. The University rule requires that the student shall consult his adviser at each registration period, but consultation should be more frequent. The adviser is consulted by the administrative authorities of the University in matters of discipline affecting a student under his supervision.

### Women in the University

The social welfare of all women students is under the guidance of the Dean of Women. Scholarship deficiencies of women students receive the personal attention of the Dean of Women.

All women students under twenty-one years of age not residents of Missoula and not working in private homes for board and room are required to live in the dormitories.

The residence halls for women, one of which is reserved for freshmen, enable the Dean of Women and the social directors to give that personal attention to the individual girl which characterizes the freshman dormitory plan.

The sorority houses, in which many upper class women reside, are under the immediate social supervision of housemothers whose appointment is made with the approval of the Dean of Women. The private homes in which upper class girls obtain rooms must be approved.

All women in the University are members of the Associated Women Students, an organization which has general direction of matters pertaining to student life not under the direct supervision of the faculty. This Association also has charge of many of the campus activities carried on by the women students, including the Counselor System, the May Fête, the Co-ed Prom, parties to enable students to become better acquainted, awards for scholarship, and a loan fund.

### Student Marriages

Any marriage, either party to which is a student of Montana State University, must be publicly announced. For this purpose notice of the marriage must be promptly filed with the Registrar. Any attempt to keep the fact of the marriage secret will result in indefinite suspension effective from the date of the marriage.

At each registration period students must indicate on the registration forms whether they are married or single. Falsification or willful suppression of any information called for on the blanks will be ground for cancellation of registration.

### Attendance

Work which a student has missed through absence must be made up as his instructors direct.

All students compelled to be absent from Missoula should report their intended absence in advance to the Dean of Men, to the Dean of Women, or to the Registrar.

Absences incurred when a student is on assigned departmental activity or representing the University in extra-curricular activities will be reported by those in charge of the activity.

### Eligibility Rules

Montana State University is a member of the Pacific Coast Intercollegiate Athletic Conference, and its rules, as approved by the Faculty, govern all intercollegiate athletic contests.

### Scholarship Grades

Grades are given at Montana State University according to the following system of marking:

A—Work of the best grade; B—work better than average; C—average work; +—pass without defining grade; D—work below average, but of barely passing grade; E—condition; F—failure.

If all the work in a course has not been done and there is sufficient reason for this, the grade I, which carries with it one of the four passing grades, is given. This incomplete work must be completed not later than one calendar year after the incomplete grade was assigned. See also page 22.

In continuous courses, if a grade of F is given, the student's connection with the course is severed. All other grades must be followed by the letter "n," indicating that the course is a continuous one and that the completion of the quarter's work carries no credit toward graduation until the remaining quarters of the course are completed. The grade of any quarter of a continuous course shall be final, except in thesis courses and courses offered by the Law School. In these cases the letter "n," not accompanied by a grade, is assigned at the end of each quarter to indicate that the student is entitled to continue in the course; upon completing the course a grade is given which applies to the whole course.

A student may withdraw from a course in which he has registered: (1) during the first three weeks of a quarter, with the consent of his adviser and the instructors concerned; (2) during the period from the fourth through the ninth week, with the consent of adviser and instructor and the permission of the chairman of the Board of Advisers. In these cases the student is given a grade W, which carries no credit; if a student withdraws for unsatisfactory scholarship a grade of F

may be assigned. After the ninth week the student who withdraws receives a grade, usually incomplete. All withdrawals must be formal and must be recorded by the student with the Registrar.

### Grade Points

Each student receives the following number of grade points for each quarter credit for which he has been registered and for which he has received a grade: 3 grade points for each credit of grade A; 2 grade points for each credit of grade B; 1 grade point for each credit of grade C; 1 grade point for each credit of grade "plus;" 0 grade points for each credit of grade D or E; 1 grade point is deducted from his total for each credit of grade F. See grade point requirements for graduation, page 22.

### Financial Obligations

Students who owe bills to the University for fees, fines, board and room in the residence halls, and other charges are not permitted to register for the succeeding quarter, secure transcript of record, or obtain diplomas until the obligation is paid or satisfactorily adjusted. Similar action is taken where students owe bills to student organizations whose books are kept in the Business Office of Montana State University, including charges for board and room in fraternity and sorority houses.

## Fees

All fees must be paid at the time of registration.

Students registered for six or more credits pay the following fees which are authorized for the college year 1940-41 in all schools and departments except where otherwise specified:

General Deposit .....	\$10.00
Payable by all students to cover loss, breakage, and fines.	
The portion not used is refunded. Students enrolled for less than six credits pay \$5.00.	
Entrance (or Matriculation) Fee.....	\$ 5.00
Payable by all students on first registration.	
Registration Fee (per quarter).....	\$ 5.00
Payable by all students regardless of number of credits registered for.	
Incidental Fee (per quarter).....	\$10.00
Payable to cover laboratory supplies in all courses, locker fees, gymnasium towel service, etc. This fee does not include loss, breakage, fines, or purchase of locks.	
Building Fee (per quarter).....	\$ 5.00
Student Activity Fee (per quarter).....	\$ 5.00
Entitles to subscription to college newspaper, free admission to all intercollegiate debate and major athletic contests, dramatic productions ("Masquers"), and reduced rates to lectures and concerts during the quarter for which the fee is paid, and includes class dues. Payment of this fee for three quarters entitles to one copy of the college annual ("Sentinel").	
Student Union Building Fee (per year).....	\$ 5.00
Payable Autumn and Winter Quarters, \$1.67; Spring Quarter, \$1.66.	

Health Service Fee (per quarter).....	\$ 3.00
Payable by all students participating in classwork on the campus. See also page 33.	
Laboratory-Incidental Fee (per quarter).....	\$ 5.00
Payable by (1) all students registered as majors in the Schools of Forestry, Journalism, or Pharmacy, and (2) students registered as majors in other departments but enrolled for five or more credits in either of these schools. Students registered as majors in other departments but enrolled for less than five credits in any one of these schools pay \$2.50. The courses Journalism 12abc, 40, and 51 are not subject to this fee.	
Tuition Fee for students in the School of Law (per quarter).....	\$ 5.00
Non-Resident Fee (per quarter).....	\$25.00
All students not residents of the State of Montana under the regulations of the State Board of Education are required, in addition to all other fees, to pay a special non-resident fee of \$25 per quarter. Part-time students are required to pay a non-resident fee of only two dollars per quarter credit, with a minimum of \$10 per quarter.	
The burden of registering under proper residence is placed upon the student. If there is any possible question of his right to legal residence, the matter should be brought to the attention of the Registrar and passed upon, previous to registration or the payment of fees. Any student who registers improperly under this rule not only is required to pay the non-resident fee, but is assessed a penalty of \$10.	
Late Registration Fee.....	\$ 1.00
Payable by students who complete registration after the prescribed registration days of any quarter. For each college day \$1, not exceeding a total of \$5. This fee applies to all students except those registered for less than six credits.	
Change of Enrollment Fee.....	\$ 1.00
Payable by each student for each change of enrollment card filed after the first week of the quarter; \$2 after the second week.	
Special Attendance Fee (each course, per quarter).....	\$ 2.00
Payable by adults registered only as listeners who have not been in regular attendance during the quarter preceding.	
Special Examination Fee.....	\$ 2.00
Payable by students for each special examination.	
Sub-freshman Remedial Course Fee.....	\$ 5.00
Payable by students who fail to establish acceptable college standards in placement examinations in specific courses.	
Certificate Fee .....	\$ 5.00
Payable by applicants for the University Certificate of Qualification to Teach at the time the application is filed.	
Diploma Fee .....	\$ 5.00
Payable by candidates for degrees at the time the application is filed.	
Application for Degrees (Delayed).....	\$ 5.00
Applications for degrees and certificates must be filed with the Registrar on the date advertised on Official University Notices. Students who do not file such applications at the	

stipulated time may file the application at a later date only upon the payment of a fee of \$5.

Removal of Incompletes or Conditions (not due to illness or fault of institution) .....	\$ 2.00
Student Handbooks (first book free).....	\$ 1.00
Transcript of Record (first transcript free).....	\$ 1.00

Students registered for less than six credits (i.e., "limited registrants") pay the Registration Fee, \$5.00; Incidental Fee, \$5.00; General Deposit, \$5.00; Building Fee, \$2.50; Student Union Building Fee, \$1.00; Health Service Fee, \$3.00. Majors in Forestry, Journalism, and Pharmacy pay the laboratory-incidental fee of \$5.00. Students registered for less than five credits in Forestry, Journalism, Pharmacy, but who are majors in other departments, pay \$2.50 instead of \$5.00 laboratory-incidental fee; students registered for less than five credits in Law pay \$2.50 instead of \$5.00 law tuition; non-resident fee \$2.00 per credit with minimum of \$10.00.

"Listeners" (students who enroll for courses without credit) pay the same fees as students enrolled for less than six credits.

In determining the number of credits for which a student is registered, applied music courses, stenography, and other courses for which there are special fees, are not included.

Graduate students pay the same fees as undergraduates except that graduate students whose program requires expensive equipment, laboratory supplies, and additional books may be required to pay a graduate laboratory-incidental fee not to exceed \$25 per quarter. The Student Activity fee is optional for graduates.

Honor scholarships from Montana high schools exempt holders from payment of the entrance fee, the registration fee, and the incidental fee (total of \$50) during the freshman year only. State University scholarships exempt holders from payment of the registration fee and the incidental fee (total of \$45 for college year).

For fees charged in typing, stenography, office machines practice, and retail stores, see page 88.

For fees charged in music see School of Music, page 113.

For fees charged in correspondence study see Correspondence Courses, page 83.

For fees charged during the summer session see page 120 or Summer Session bulletin.

For textbook fee in the School of Education see page 92; in Introduction to Biological Science, page 43; in Introduction to Humanities, page 54; in Introduction to Physical Science, page 65; in Introduction to Social Science, page 74.

### Refund of Fees

All fees are refunded to students who withdraw during the period of registration and before the beginning of classes, in which case registration is canceled. The Entrance, Registration, Student Union Building fees are not refunded except when registration is canceled (prior to beginning of classes). The Incidental, Building, Student Activity, the Laboratory-Incidental fee in Forestry, Journalism, Pharmacy, tuition in Law, textbook fees, are refunded to students withdrawing during the first week of classes, and fifty per cent of these fees are refunded to students withdrawing after the first week of classes but prior to the close of the third week of classes. The Health Service fee is refunded during the first week of classes except to those who have had a phy-

sical examination or received medical service. Refunds in courses in Music and Business Administration, and other courses for which there are special fees, are based upon service rendered or supplies furnished.

Refunds are calculated from date of application for refund and not from date of last attendance at classes except in cases of illness. No refunds are made if application for refund is delayed beyond close of quarter in attendance.

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## Expenses and Living Accommodations

### The Residence Halls

The Montana State University has four modern residence halls located on the campus—North Hall for freshman women, New Hall for upperclass women, South Hall for freshman men, and Corbin Hall for upperclass men.

The Montana State University adopted the freshman dormitory plan in 1923. All freshman men and women whose homes are not in Missoula are required to live in the University residence halls. This requirement, that freshmen live in the halls, may be waived by the Dean of Men or Dean of Women for certain special reasons. Upper-class women students under twenty-one years of age are required to live in the University residence halls or sorority houses unless expressly excused by the Dean of Women to live in approved homes. Married students are not permitted to live in the dormitories. Students living in the halls must carry at least 10 quarter credits of work. **All occupants of the halls are required to board in the halls.**

The social, moral, and educational welfare of the residents of the halls is under the general supervision of the Deans of Men and Women. Social directors, who give personal attention to the needs of each student, reside in each hall. The students who live in the halls are organized into clubs and assist in the management of social and general interests. In the construction and arrangements of the residence halls, and in their management, the most highly recommended and successful means of attaining a happy, healthful, inspiring, industrious atmosphere have been considered.

The health of the residents of the halls is looked after by the University Physician.

The management of the halls is in charge of the Director of Residence Halls.

The four residence halls are three-story fireproof brick buildings, steam heated. Each student room has a lavatory with hot and cold running water, a center light and lavatory light, floor plug for study lamp, clothes closets or wardrobes; each room is furnished with a dresser, study table, chairs, single beds size 36" x 76", and wastebasket. Each bed is supplied with mattress, bed pad, pillow, sheets, pillow cases, and two woolen blankets; face and turkish towels and marquisette window curtains are also furnished and the laundering of the above is cared for by the residence halls without extra charge to the students. Each hall has a students' laundry and trunk room.

Students should furnish a day cover or spread for the bed, dresser scarf, and wash cloths. Also desirable are a study lamp and a small floor rug.

### Rates

The following rates apply to the four residence halls, North and New hall for women, and Corbin and South hall for men. The University reserves the right to raise or lower the rates with reasonable notice.

Double rooms, \$30 per quarter for each occupant.

Single rooms, \$45 per quarter.

Board by the month, \$22.50.

Club Fee. A fee not to exceed \$1 per quarter may be assessed the residents of each hall. This fund is expended under the direction of the club officers for social activities.

Application for admission to the halls must be accompanied by a deposit of \$10; the application must be made upon a form furnished by Montana State University. Dormitory circular and room reservation form may be obtained by writing to the Registrar, Montana State University.

### Living Accommodations for Upperclass Students

The Dean of Men has general supervision over the housing of men students, and the Dean of Women, of women students.

Upperclass students have no difficulty in securing satisfactory rooms in private homes or in rooming houses near the campus at rates varying from \$7.50 to \$12 a month; for single rooms, from \$12 to \$15. Board may be obtained at boarding houses at rates varying from \$20 to \$27.50.

Student rooms must be approved by the University. A list of approved rooms in private residences may be obtained on application to the Dean of Women or the Dean of Men. Arrangements for reservation of rooms in private residences must be made directly with the landlady.

### Expenses

Average expenses of students for the college year are estimated as follows:

Books and Equipment.....	\$ 20.00 to \$ 40.00
Fees (See Note) .....	45.50 to 95.50
Room rent for one (two in a room).....	90.00 to 115.00
Board .....	202.50 to 215.00
Laundry .....	15.00 to 30.00
Total .....	\$379.00 to \$499.00

**Note:** The minimum expense of \$45.50 for fees is applicable only to holders of high school honor and State University scholarships registered for work in the College of Arts and Sciences and the Schools of Business Administration and Education. An additional \$15 each year is charged all students taking work in the Schools of Forestry, Journalism, Law, or Pharmacy. For additional fees for music majors, see page 113. Students not residents of the State of Montana require \$75 additional for payment of the non-resident fee.

The above table includes only the necessary expenses. Other expenses should be provided for, including clothing, \$100 to \$200, and incidentals about \$10 per month. The expenditures for clothing and incidentals are similar to expenditures for those purposes at home. If a single room is desired, a minimum of \$45 additional should be provided.



Parents are advised to place all students on a fixed allowance rather than to give them an unlimited sum on which to draw.

For information about earning expenses see pages 32-33; student loans, page 32; scholarships and prizes, pages 34-37; railway fare refund, page 32.

### **Railway Fare Refund**

In accordance with the provisions of Chapter 41 of the Session Laws of 1925, enacted by the Nineteenth Legislative Assembly, and under regulations established by the State Board of Education, railroad fare in excess of fifteen dollars actually paid by any student for a round trip by the most direct route available between his Montana home and Montana State University once each year, will be refunded. The amount of the refund will be based upon the railroad or bus fare over the shortest route and at the lowest rate. Students must present receipts for the fare thus paid.

In order to be entitled to the refund students must satisfactorily carry a normal amount of work, and must be in attendance either throughout the college year or through the summer quarter.

Claims for refunds must be presented within thirty days after the close of the term in which the student was last in attendance.

### **General University Student Loan Funds**

The Montana Bankers' Association Student Loan Fund and the Edward C. Elliott Loan Fund are available for students in the junior and senior classes of any of the institutions of the University of Montana, who are unable to continue their studies without financial aid. Such students must be recommended as to character and scholarship by the dean or director of the department in which the applicant's major work is done. The loan to any one student is limited to two hundred dollars during his course, and not more than one hundred dollars in any year. Loan must be repaid within one year after the borrower's graduation. Loans bear two per cent interest to maturity and six per cent thereafter.

The Grand Commandery of Knights Templar of Montana has established a loan fund which is available under similar conditions. Loans from this fund bear five per cent interest, and are payable in specified installments, one two, three, and four years after the borrower's graduation.

University women may borrow under similar terms from the loan fund founded in 1922 by the Missoula branch of the American Association of University Women and from the loan fund of the Associated Women Students.

Application blanks and a statement of detailed regulations governing these loans may be obtained from the Business Manager.

### **Employment and Aid for Students**

Although many students earn all or a part of their expenses while in attendance at Montana State University, due to the economic conditions of the last few years it has become increasingly difficult to obtain employment. Those students who will find it necessary to obtain work in order to attend college should realize, also, that it is necessary to sacrifice some pleasures and to apply themselves diligently to the task before them. The necessary effort and sacrifice can be made only when there is an earnest desire on the part of the student for higher educa-

tion. Self-supporting students enjoy the highest respect and regard both of their fellow students and of the faculty.

The Deans' Secretary keeps in close touch with all sources of employment, and is able to give considerable assistance to worthy students in finding work. Assistance and cooperation in this work is given by the Missoula Chamber of Commerce, the Missoula Women's Club and the business men and residents of Missoula in general. With a little assistance at the beginning, a student often finds it possible, after becoming somewhat acquainted, to find sufficient employment on his own initiative. Free tuition and low registration fees at Montana State University are also a considerable advantage to self-supporting students who are residents of Montana.

Business houses in Missoula employ students as clerks, janitors, stenographers, bookkeepers, waiters, dishwashers, porters, bell boys, automobile mechanics, musicians, clothes pressers, solicitors, and collectors. There are many calls for students to do "odd jobs" in private homes, such as garden work, window washing, furnace tending, handling coal and wood, picking apples, and general cleanup work. There are some jobs at the University, such as janitor work, waiting on tables in dining halls, stenography, and, for upper class students, employment as laboratory and library assistants. The employment policy is to assist first those most in need of employment. Other factors, however, are taken into consideration, such as the student's scholarship, ability, and dependability.

Students planning to earn all or a part of their expenses are not advised to enter the University with less than \$250 or \$300. This sum is usually sufficient to take care of all necessary expenses for the first two quarters, giving the student time to get well started in his studies, and to find employment. Entering the University with less than this amount is a serious handicap to a new student, and usually results in poor scholarship and ultimate withdrawal from the University because of a lack of funds. If, on the other hand, a student has earned and saved this amount before entering the University, that fact is a good indication that he will succeed in college.

It is impossible for the University to give students any definite assurance of employment **in advance of their arrival and personal application.** Upon arriving at the University, students should apply to the Deans' Secretary, who will be glad to advise them regarding employment and give them every aid possible.

### Students' Health Service

Through the Health Service, the University does all in its power to safeguard the health of its students. The Health Service accomplishes this end through protection against environment, health education, complete physical examinations for the detection of remediable defects, constant vigilance against incipient disease, and the medical treatment of acute diseases.

The Students' Health Service at Montana State University is maintained on a self-supporting basis without charge for overhead. Any student who has paid the Health Service fee of \$3.00 per quarter is entitled to advice and general medical attention for acute illness at the Students' Health Service during office hours. If his condition requires hospitalization for general medical attention, he is entitled to free care at the University infirmary not to exceed eight days in any one quarter. For a longer period, an additional charge is made. If a student expects to take advantage of his Health Service fee, it will be necessary

that he report to the Health Service for care. It will be at the discretion of the Health Service to refer cases to the private physicians in Missoula. When a special nurse or care of a specialist is necessary, the expense must be met by the student. All expenses of, or connected with surgical operations, or highly specialized service, must be borne by the student. A student who is too ill to come to the Health Service may be attended at his rooming house. A charge for this service may be made if the call is unnecessary. The Health Service is not responsible for injuries incurred through accidents which occur off the University campus.

The Students' Health Service is not available to members of the faculty.

**Vaccination**—All students are urged to be vaccinated before matriculation in the University. The Health Service will furnish all vaccines free of charge to any student, but will not provide medical care to those suffering from preventable diseases if they have not been vaccinated. A student not of age should bring the written consent of his parents or guardian to allow the proper health authorities to vaccinate.

The cost of special sera used in the treatment of diseases must be borne by the student.

**Physical Examination**—All entering undergraduate students are given a physical examination. The object of this examination is twofold, the benefit of the individual and the protection of the group. The examination includes a tuberculin test, and a chest x-ray of all positive reactors. Any student who does not complete his tuberculin test or tests (including proper observation of the results) at the scheduled time will be required to provide at his own expense a satisfactory x-ray film of the chest. Such a film may be secured at the Health Service for a fee of \$3.00.

**Fees**—All students who participate in classwork on the University campus are required to pay the Health Service fee of \$3.00 per quarter.

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## Scholarships and Prizes

The Deans of Men and Women in conference with the President are authorized to administer all matters connected with prizes and scholarships, subject to the condition of gift and any actions by the faculty. Where the awarding of a prize is conditional upon performance in, or in relation to the work of a department of the University, the award is made by the department concerned. Those that are established at present are stated as follows:

**High School Honor Scholarships.** The principal of each fully accredited high school in the state may name from each year's graduating class from one to four members, depending on the size of the class to be recipients of high school honor scholarships. These scholarships exempt the holders from the payment of the entrance fee, the registration fee, and the incidental fee, described on page 27, during their freshman year. Blanks for the nomination of scholars, with detailed statement of conditions, are furnished to principals by the Executive Secretary of the University of Montana at Helena.

**The Aber Memorial Oratorical Prizes.** A fund of \$1000 was set aside by the late Professor William M. Aber for the establishment of the Aber Memorial Oratorical prizes. Prizes are given to the winners of first, second, and third places, payable from the interest on this fund.

**Alpha Lambda Delta Scholarship Award.** The national scholarship honorary organization awards a book annually to the member of Alpha Lambda Delta in that year's graduating class who has maintained the highest scholarship average throughout her college work.

**American Association of University Women.** The Butte Branch of the American Association of University Women maintains five loan scholarships at the University, as follows: Claribel Leggat Couse Scholarship, Eleanor Humphrey Smith Scholarship, Rosemary MacGinnis Creden Scholarship, Natalie Lahr Dwight Scholarship, and the Jane Hutchens Moore Scholarship.

One scholarship each year is offered to a Butte high school girl graduate. Candidates for the scholarships must have outstanding grades in the high school and must receive the vote of two-thirds of the club's active membership. These scholarships are on the loan plan, \$300 being allowed each year to each recipient.

**American Legion Military Award.** The Hell Gate Post No. 27 of the American Legion awards a medal at the end of each regular quarter to a student of good scholarship and conduct who excels in military science and tactics.

**The Bennett Essay Prize.** This prize, the annual proceeds from a \$500 endowment, is awarded upon recommendation of the Department of History and Political Science for the best essay by any regular undergraduate student of the Montana State University, on some topic pertaining to good government. No prize is awarded in case the judges decide that no essay submitted is good enough to receive recognition.

**The Bonner Scholarship.** This scholarship, amounting to approximately \$300 a year payable from the income of an endowment, was established by Mrs. E. L. Bonner. It is awarded to a student ranking among the highest in scholarship at the end of his freshman year, to be held by him for three years unless forfeited.

**Nathan Burkan Memorial Prize.** Prizes amounting to \$100 are awarded annually for the best paper or papers submitted by students on the subject "Copyright Law." Papers must be submitted to the Dean of the Law School not later than the first week in April each year.

**The Edwin B. Craighead Memorial Prize in Art.** This prize is given annually to the freshman or sophomore student in the Department of Fine Arts who has shown the greatest ability in art during the year.

**The Duniway Scholarship Books.** A fund of \$400, established by former President C. A. Duniway, provides standard books, within various fields of knowledge, to be awarded annually to students distinguishing themselves by scholarship in the several departments of the University.

**Faculty Women's Junior Scholarship Prize.** A cash prize is given annually to a junior woman of excellent scholarship record.

**The Samuel W. Fairchild Scholarship.** Second year pharmacy students are eligible to compete for a scholarship which amounts to \$500 in cash. The examinations are held annually at Montana State University the second Monday in June. Students desiring to compete for this scholarship should apply to the Dean of the School of Pharmacy not later than May 1.

**The Grizzly Cup.** This cup is awarded to the athlete who has been outstanding in service to Montana State University. The award is withheld in case no student meets the qualifications.

**The Annie Lewis Joyce Memorial Prize.** This prize, the annual proceeds from a \$200 endowment, is awarded upon recommendation of the English Department.

**The 1904 Class Prize.** This is a cash prize for scholarship payable from the interest on an endowment of \$400.

**Painting Prize for Upperclassmen.** A cash prize is offered for the best work done in painting by a student of junior or senior standing. The prize may be withheld if the quality of the work is not deemed sufficiently high.

**Pharmacy Prizes.** The Kappa Psi Senior Scholarship prize is given by the Kappa Psi National Pharmacy fraternity annually to one of its members, provided that a member of Kappa Psi makes the highest general average among all of the pharmacy students in all pharmacy classes.

The Lehn and Fink gold medal is awarded annually to a member of the graduating class making the highest general average in the pharmacy courses, but not to a member receiving the Kappa Psi prize.

**Phi Sigma Award.** A medal is awarded annually by the national honorary biological organization to a graduating senior who has been the outstanding student in the study of biological science and its related fields.

**The Pi Mu Epsilon Prize.** This prize is given in the Department of Mathematics and the Department of Physics. It is of the same nature as the Duniway prize, but is not awarded in the same year that the Duniway prize is allotted to these two departments. It is given by the local chapter of Pi Mu Epsilon, honorary mathematics fraternity.

**The Rhodes Scholarship.** Men who have completed their sophomore year at Montana State University, and are between 19 and 25 years of age, are eligible to compete for the Cecil Rhodes Scholarship, tenable for three years at Oxford University, England, with a stipend of four hundred pounds each year. Information may be obtained from Dean J. E. Miller, Montana State University, Missoula, who is the University representative for the Rhodes Scholarship.

**The Ryman Fellowship in Economics.** This fellowship was founded in 1927 by the late J. H. T. Ryman, Esq., of Missoula, by a bequest of ten thousand dollars, the income of which is to be awarded every fourth even year (first awarded in 1930) to a student of that year's graduating class who has shown distinctive ability and promise in Economics. The purpose of the fellowship is to enable such a student to pursue study in some graduate school of recognized standing leading to the degree of Doctor of Philosophy.

**The Straughn Scheuch Scholarship.** This scholarship was founded in 1920 by Professor and Mrs. F. C. Scheuch in honor of their son, Straughn Scheuch, who died while a student in Montana State University. The scholarship is awarded under the following conditions:

1. It will be awarded to a man with full sophomore standing certified by the Registrar as being in line for graduation at the June Commencement two years from the time of appointment, registered in the College of Arts and Sciences. The scholarship, which amounts to \$240 each year, is tenable for two years.

2. The choice is based upon general excellence including particularly (1) character, (2) scholarship, (3) loyalty, (4) leadership, (5) physical soundness and strength, and (6) the possession of a definite and worthy purpose for life. The Committee of Selection is given full discretion in weighing these and other elements. First consideration

will be given to the candidate most outstanding in the above qualities, irrespective of financial need.

The selection will be made by a committee consisting of the President of Montana State University, the Dean of Men, and Mr. Walter McLeod of Missoula.

**Sigma Delta Chi Award.** Certificates of recognition and scholarship keys are awarded annually by the national professional journalistic fraternity to the highest ten per cent of the graduating class in journalism.

**State Federation of Women's Clubs Scholarships.** The Montana Federation of Women's Clubs assumes the payment of expenses for board, room rent, and necessary books by a gift for the first year and funds provided on the loan basis for the remaining three years.

**State University Scholarships.** Montana State University is authorized to award to five per cent of the students in regular attendance above the freshman year, scholarships exempting the holders from payment of the registration and incidental fees during the three quarters of the following college year. See pages 27 and 31. These scholarships are to be awarded on or about July 1 of each year to students who, during the preceding year, attended all three quarters and made a scholastic index of 2.0 on a minimum of 40 credits. The awards are made on the basis of ability, character, and promise.

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## Activities

### Athletics

All athletic activities at Montana State University are under the control and supervision of the Faculty Athletic Committee. Athletic eligibility, schedules of competition, and relationship with other institutions are subject to the approval of the Faculty Athletic Committee. The details of management of intercollegiate athletics are handled by the athletic manager and the coaches, subject to the approval of the Associated Students' Athletic Board, which consists of two members of the faculty, three members of the Central Board of the Associated Students, and two alumni members.

The University has two gymnasiums, one for women and one for men. The men's gymnasium is one of the finest in the country. The gymnasium floor is 75x140 feet in size with separate rooms for boxing, wrestling, and theory classes. The first floor is given up to administrative offices, locker rooms, varsity teams' rooms, and training rooms. A wing of the building contains the shower rooms and swimming pool. The entire building is equipped with the very latest and best apparatus of all kinds.

The women's gymnasium is equipped with dressing rooms, shower rooms, rest rooms, offices, class rooms, and has a gymnasium floor 45x90 feet in size. It is fully equipped with the best gymnastic apparatus. In the men's gymnasium is a large locker and shower room set apart for the use of women, and the natatorium is reserved for their use half of the time.

To the north of the men's gymnasium is the Dornblaser athletic field, which was presented to the University by the Alumni Association. A standard quarter-mile cinder track encloses the football field and pits for pole-vaulting and jumping. The track has a 220-yard straight-

away, 35 feet wide. The bleachers, extending nearly the full length of the field, have a seating capacity of 8,500. Ten concrete tennis courts have been constructed north of the women's gymnasium. To the east of the tennis courts is a women's athletic field for hockey, association football, and baseball. North of the library is the intramural football field.

### Annual Interscholastic Games

For thirty-seven years Montana State University has held an annual interscholastic invitation meet for track and field contests on Dornblaser Field. Golf and tennis tournaments are included in the regular program of events. Invitations to participate are extended to all fully accredited high schools in the state. In determining and administering rules of eligibility for the contests the University has the aid of the Montana High School Athletic Association.

Interscholastic week is by no means devoted entirely to athletics. The declamatory contests for both girls and boys, the Little Theatre Festival, the interscholastic debate, the meetings of the Interscholastic Editorial association—these events attract students from all parts of the state.

### Intercollegiate Debate

Montana State University engages in debate with the leading universities in the Northwest and occasionally with eastern universities. In addition to the regular debates, teams from Montana State University make a tour of the state each year. Whenever foreign teams visit the West, debates with them are scheduled if possible. The activity of debate at the University affords the finest opportunity for students in public address to combine academic, class, and practical experience.

### Publications

The Associated Students of Montana State University publish a daily newspaper, *The Montana Kaimin*. The paper has become a permanent factor in campus life.

*The Sentinel* is a year book published by the Associated Students of the University. It contains a valuable record of the activities of each year.

### Societies

The entire student body is organized into one society known as the Associated Students of Montana State University. This organization, through appropriate committees and officers, has charge of matters of general concern, such as athletics, oratory, debate, and entertainments.

The Associated Women Students is an organization made up of all women students in the University for the purpose of regulating matters pertaining to the student life of its members.

The University Inter-Church Club and various church clubs and associations carry on work for the religious and social life of the University.

There are five musical organizations—the University Glee Club, composed of men; the Women's Glee Club; A Capella Choir, composed of men and women; the University Symphony Orchestra; and the University Band. These organizations provide music for university events during the year, and furnish an opportunity for all students who have musical talent to cultivate it as well as to participate in the social pleasures pertaining to such organizations.

The "M" Club is an organization of all Montana State University men who have won a letter in any branch of athletics.

The Montana Masquers is the University dramatic organization, open to students who have distinguished themselves in dramatics in any capacity such as acting, stage managing, costuming, designing, etc. A series of plays is given throughout the year in Missoula, and occasionally a tour is made of the state.

Penetralia Chapter of Mortar Board is a national honorary organization for senior women devoted to service and promoting the best interests of the University.

Silent Sentinel is a local honorary organization for senior men chosen for their service and leadership in campus citizenship.

Bear Paw Chapter of Intercollegiate Knights is a national honorary for sophomore men who have evidenced loyalty and a desire to serve the University.

Tanan-of-Spur, as a national honorary, recognizes outstanding sophomore women who have maintained high scholarship, leadership, character, and service.

The Women's Athletic Association is an organization devoted to the development of interest in the various sports for women.

Kappa Tau is a local honorary for seniors who have maintained outstanding scholarship records throughout their college work.

Alpha Lambda Delta is a national honorary for freshmen women who have maintained high scholarship.

The various departments and schools in the University have professional clubs and honorary organizations for their own students.

### NOTICE

The University reserves the right to change the rules regulating admission to, instruction in, and graduation from the University and its various divisions and any other regulations affecting the student body. Such regulations shall go into force whenever the proper authorities may determine, and shall apply not only to prospective students but also to those who may, at such time, be matriculated in the University. The University also reserves the right to withdraw courses or change fees at any time.



# Organization of Instruction

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Note—In the following outline of courses, the length of a course and the quarter or quarters in which it is given are indicated immediately after its title. Courses numbered from 1 to 99 are offered to undergraduates only; those numbered from 100 to 199 are offered to both undergraduates and graduates (the amount of graduate credit allowed is subject to the regulations listed under "Graduate School"); those numbered from 200 to 299 are offered to graduates only. In the courses designated "continuous" the student may receive credit only upon the completion of the entire course. In courses numbered a, b, c, credits may be granted upon completion of a quarter's work. In continuous courses, or in courses numbered a, b, c, the first quarter of a course is prerequisite to the second quarter and the second quarter is prerequisite to the third quarter, unless otherwise indicated. This outline is as nearly complete as it can be made and it affords the student information which is necessary in arranging his course. When the student has decided upon his major course, he is expected to follow closely the work which is outlined as the required course in that line of study or research.

The University reserves the right to withdraw any course for which fewer than five students are enrolled before the opening of the course. Such courses may be given only in special cases and with the written approval of the President.

# COLLEGE OF ARTS AND SCIENCES

PROFESSOR RICHARD H. JESSE, DEAN.

The College of Arts and Sciences offers the student a liberal education and special training in some chosen field of work.

## Requirements for Admission

The regular University requirements for admission apply to the College of Arts and Sciences. See pages 15 to 18.

## Requirements for Graduation

Candidates for the Bachelor of Arts degree must meet the following requirements:

The general University requirements for graduation, pages 18 to 23, including 93 credits in the College of Arts and Sciences. Special requirements in the Division of which the major department is a member, and the major requirements of the department from which the degree is to be granted must also be met.

## Divisional Requirements for Graduation

**Division of Biological Sciences.** Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Biological Science 13abc .....	5	5	5
Chemistry 11abc or 13abc .....	5	5	5
Social Science 11abc or Humanities 15abc.....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	<u>17</u>	<u>17</u>	<u>17</u>

**Note:** Bacteriology majors substitute Mathematics 12, 13, 21 for Biological Science; Psychology majors substitute modern language for chemistry. Other students may substitute mathematics or modern language.

### Sophomore Year

*Botany 11, Zoology 11, Botany 12.....	5	5	3
English 11ab and Psychology 11 .....	3-5	3-5	3-5
**Foreign Language or Elective .....	4-5	4-5	4-5
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<u>*17-19</u>	<u>*17-19</u>	<u>*17-20</u>

**\*Note:** Physical Education majors take Physical Education 20abc and substitute Zoology 24 for Botany 12. Psychology majors substitute Psychology 12ab and 3 cr. additional for Botany 11 and 12 and Zoology 11. Zoology majors take Zoology 23 in addition.

**\*\*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 54 and 61.**

**Division of the Humanities.** Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Humanities 15abc or Social Science 11abc .....	5	5	5
Biological Science 13abc or Physical Science 17abc .....	5	5	5
*Foreign Language .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	17	17	17

### Sophomore Year

Biological Science 13abc, Physical Science 17abc, Social Science 11abc, or Humanities 15abc..	5	5	5
*Foreign Language and Psychology 11 .....	4-5	4-5	4-5
English 11ab (two quarters).....	3	3	3
Electives .....	3-4	3-4	3-4
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	17-19	17-19	17-19

**Note:** Majors in English or in Dramatics and Speech must complete English 25abc, instead of Humanities 15abc and English 11ab. Dramatics and Speech majors complete English 20 in the freshman year. In the sophomore year English majors select two quarters of English 59abc, and either 30a or 30b; Dramatics and Speech majors take English 44ab, 46ab, and 47.

**Division of Physical Sciences.** Candidates for the Degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Social Science 11abc .....	5	5	5
Chemistry 11abc or 13abc or Humanities 15abc..	5	5	5
*Mathematics or *Foreign Language .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	17	17	17

### Sophomore Year

Humanities 15abc or Chemistry 11abc or 13abc..	5	5	5
Physics 20abc .....	5	5	5
English 11ab (two quarters) .....	3	3	3
*Foreign Language and Psychology 11 .....	4-5	4-5	4-5
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	16-20	16-20	16-20

**Note:** Students intending to major in Home Economics should replace foreign language with Home Economics 17abc in the freshman year. In the sophomore year, Home Economics majors may replace Physics 20abc with foreign language.

\*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 54 and 61, and Department of Mathematics, page 70.

**Division of Social Sciences.** Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Physical Science 17abc or Biological Science 13abc .....	5	5	5
Social Science 11abc .....	5	5	5
*Foreign Language .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	<hr/> 17	<hr/> 17	<hr/> 17

### Sophomore Year

	4-5	4-5	4-5
Humanities 15abc or English Literature .....	4-5	4-5	4-5
Economics 14ab or History 21abc .....	4	4	4
English 11ab and Psychology 11 .....	3	3	5
*Foreign Language or Elective .....	4-5	4	3-4
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<hr/> 18-19	<hr/> 17-18	<hr/> 17-20

**Note:** Economics majors should complete Economics 14; History majors, History 21abc. Electives in sophomores year: Economics majors, Economics 15, 16, 17; History majors, History 13abc or 33, 28, 29.

## DIVISION OF BIOLOGICAL SCIENCES

PROFESSOR JOSEPH W. SEVERY, CHAIRMAN.

It is advisable for students interested in majoring in any department of this Division to include in their high school preparation as many courses as possible in mathematics, physics, and chemistry, as well as work in either French or German.

The following course is offered as a general introduction to the field of the Biological Sciences. For all major students in the Division and for all students who plan to secure teaching minors in Biology, this is a prerequisite course for all future work.

**13abc. Introduction to Biological Science.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students may enter 13b without 13a, but 13ab is the prerequisite to 13c. Students who have earned 7 or more college credits in laboratory botany or zoology or both may not be allowed credit for 13a or 13b or both. (a) An introduction to basic cellular morphology classification, morphology, and possible evolution of the plant phyla; structure and physiology of seed plants; ecological factors and succession. (b) Morphology, physiology, and phylogeny of the principal animal phyla; habitat relationships. (c) Geographic distribution of plants and animals; principles of heredity and eugenics; history and theory of evolution; paleontological evidence for evolution, particularly exemplified in the vertebrate record; physical anthropology. A textbook fee of \$1.00 is charged each quarter. Given conjointly by the departments of Botany, Geology, and Zoology. Mr. Castle. Mr. Deiss. Mr. Severy.

### Medical Technology

Clinical analyses are based on a knowledge of serology, bacteriology, chemistry, physics, and zoology. It is, therefore, essential for the laboratory technicians to have accurate knowledge in these sciences. It

\*Course entered dependent upon high school preparation.

is also important that the workers receive routine practical training in a hospital laboratory under the supervision of a qualified clinical pathologist.

For students desiring to enter this work a four-year course is offered in the Division of Biological Sciences which involves three academic years of scientific training and twelve months of practical laboratory experience in an approved hospital. Upon the completion of the fourth year's work the student will be required to pass an examination given by the American Society of Clinical Pathologists covering the practical laboratory instruction. At least the third year of University work prescribed in this course must be taken in residence at Montana State University. Satisfactory completion of this course leads to the degree of Bachelor of Science in Medical Technology.

The curriculum for this course has been designed for those students who have had adequate high school preparation, which should include one and one-half units of algebra, one unit of geometry, one of chemistry, and two units of either French or German. Students who lack this preparation should plan to spend four years in the University before going to a hospital for the practical laboratory instruction.

Since the number of hospital internships available is limited, the department will recommend candidates for these internships largely on the basis of superior scholarship.

The curriculum is as follows, and has been approved by the Council of Education and Hospitals of the American Medical Association:

**Freshman Year:** Biological Science 13abc, Chemistry 11 or 13; Mathematics 12 or 13; \*Modern Language (French or German); Physical Education 11abc; Military Science 11abc (Men).

**Sophomore Year:** Social science (8 credits); Physics 20abc; Chemistry 17 and 101; English 11ab; Zoology 11; Physical Education 12abc; Military Science 12abc (Men).

**Junior Year:** Zoology 105, 24; Bacteriology 117, 118, 119, and 121; English literature (8 credits) and English 30a or 30b.

**Senior Year:** Twelve months of practical instruction is offered on a rotating service in hospital laboratories. Subjects given include: urinalysis, 2 months; hematology, 2 months; serology, 2 months; tissue sections, 2 months; parasitology and gastroenterology, 1 month; pathogenic bacteriology, 1 month; basal metabolism, intravenous solutions, electrocardiography, museum preparation, applied endocrinology (pregnancy test, etc.), 2 months.

Credits earned in practical laboratory work may be applied toward graduation only for the degree of Bachelor of Science in Medical Technology.

### Nursing Education

Montana State University offers a course in Nursing Education which covers a period of eight quarters on the University campus followed by three years of training in an accredited nursing school. Upon completion of this program, the student receives the diploma in Nursing and the degree of Bachelor of Science in Nursing. At least the second year of university work in the following course must be completed in residence at Montana State University.

**Freshman Year:** Bacteriology 26; Biological Science 13abc; Chemistry 11abc; English 20; Psychology 11; Physical Education 11abc. Summer Session: Chemistry 19; Pharmacy S23; Elective.

\*Course entered dependent upon high school preparation.

**Sophomore Year:** Bacteriology 19; Economics 16 and 17; English 11ab and 30a or b; English literature (8 cr.); Home Economics 24; Physical Education 12abc and 21; Zoology 11 and 24. Summer Session: Economics 130; Psychology 115; Elective.

The hospital schools in which this course is to be completed must follow the curriculum of the National League of Nursing Education. At the present time no Montana nursing school is prepared to offer such curriculum. The Committee on Nursing Education in Montana is working toward that goal, however, and hopes within the near future to secure such standards as will make it possible for students to complete work for the degree within the state.

### Wild Life Technology

Although the curriculum for majors in Wild Life Technology is tentatively outlined for four years, students desiring to elect this major are strongly urged to take advantage of the more thorough training made possible in a five-year curriculum. This major should be elected only by those who feel that they are intensely interested, since the requirements in the sciences are rather demanding and the field is highly specialized.

The tentative curriculum for this course is as follows:

**Freshman Year:** Biological Science 13abc; Chemistry 11 or 13; Social Science 11abc, Physical Education 11abc; Military Science 11abc (Men).

**Sophomore Year:** English 11ab, 30a, 55abc (8 cr.); Mathematics\*; Botany 11; Zoology 11 and 23; Physical Education 12abc; Military Science 12abc (Men).

**Junior Year:** Botany 21, 22, 51, 121; Forestry 41a, 42; Modern Language\*; Zoology 103, 107, 108 or 109, 118.

**Senior Year:** Botany 126, 161ab; Economics 14; Forestry 39ab; Mathematics 25; Zoology 108 or 109, 125, 128, 129.

For five-year majors, courses should be elected from the following: Physics 20abc, Chemistry 101, Bacteriology 119a, Geology 11ab, Zoology 24, 105, English 20, Forestry 40abc, 41b, 44ab, Psychology 11.

### The Biological Station

PROFESSOR GORDON B. CASTLE, DIRECTOR.

Through an act of Congress when the Flathead Indian Reservation was thrown open for settlement, Montana State University received a grant of 160 acres of land for use as a Biological Station. This land is in three tracts at Flathead Lake, 89 acres at Yellow Bay, 36 acres on Bull (Idylwild) Island, and 34 acres on Wild Horse Island. At Yellow Bay a brick laboratory building, a log house for a dining room, a boat house, and a kitchen were erected. Sleeping quarters were in tents. The adjacent region is largely a virgin forest.

The station was maintained and operated as a center for field and laboratory instruction and research in biology for many years. Owing to lack of funds it has not been opened for these purposes for the past several years. During the school year, however, especially in the autumn and spring quarters, the station is used by classes in ornithology, mammalogy, ecology, and entomology for field studies supplementing the regular class work on the campus at Missoula.

Plans are now under way to reopen the station.

For "Pre-Medical Course" see page 73.

\*Course entered dependent upon high school preparation.

## Bacteriology and Hygiene

PROFESSOR DONALD M. HETLER (CHAIRMAN); ASSOCIATE PROFESSOR MEREDITH B. HESDORFFER.

**Major Requirements:** 40 or more credits including courses 117, 118, 119, 121, 131, and 3 credits of 129. Five credits of Biological Science 13abc and 5 credits of either botany or zoology laboratory may be counted in partial fulfillment of this credit requirement. The following courses must be completed. Chemistry 13, 17, 101; Physics 20abc. In addition, major students must have a reading knowledge of French or German.

Senior examinations will not be given except to candidates for honors.

### For Undergraduates

**19. Elementary Bacteriology.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Open to all students, but may not be applied toward a major in Bacteriology. Designed for nursing, pharmacy, home economics, and sociology students. Fundamentals of general bacteriology, pathogenic bacteriology, and immunology. Mr. Hetler.

**26. General Hygiene.** 1 Q. Winter. Summer. 3 cr. Open to all students. An informational course dealing with the subject as related to the individual, the community, and the state. Bacterial and protozoan diseases, food, exercise, sleep, ventilation, drainage, disinfectants, quarantine, and public health. Not a laboratory course. Mr. Hetler.

### For Undergraduates and Graduates

**117. General Bacteriology.** 1 Q. Autumn. 5 cr. Prerequisite, Chemistry 101 and Physics 20abc or equivalent. Laboratory technique; physiology of bacteria and effect of environmental factors on bacteria; microbiology of soil, water, milk, and other foods; microbiology in industry. Introduction to the study of pathogenic bacteria, infectious diseases, and immunity. Students who have taken Bacteriology 19 may not receive full credit for this work. This is a duplication of the course formerly numbered 119a. Mr. Hetler.

**118. Immunology.** 1 Q. Winter. 5 cr. Prerequisite, course 117. General principles of immunity, and laboratory work in serology, animal experimentation, and clinical diagnosis. This is a duplication of the course formerly numbered 120. Mr. Hetler.

**119. Pathogenic Bacteriology.** 1 Q. Spring. 5 cr. Prerequisite, course 118. The characteristics of microorganisms and their relation to the etiology, prophylaxis, and control of infectious diseases. This is a duplication of the course formerly numbered 119b. Mr. Hetler.

**121. Diagnostic Bacteriology.** 1 Q. Spring. 5 cr. Prerequisite, course 119 or concurrent registration. Laboratory work embraces the standard diagnostic methods used in hospitals and public health laboratories. Mr. Hetler.

**122. Bacteriology of Foods and Water.** 1 Q. Winter. 5 cr. Prerequisite, Bacteriology 19 or 117. Standard methods of water analysis. Examination of milk, oysters, meat, canned foods, etc. Laboratory. Mr. Hetler.

**126. Sanitation and Public Health.** 1 Q. Spring. 5 cr. Prerequisite, junior standing, and course 19 or 117. Sanitation and disease prevention with relation to the community. Surveys, reports. Not given in 1940-41. Mr. Hesdorffer.

**129. Bacteriological Journals.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Prerequisite, senior standing and 15 credits in bacteriology. Study of current bacteriological and public health literature. Bacteriology and Hygiene Staff.

**131. Advanced Bacteriology.** 1 to 3 Q. Autumn, winter, spring. 2-5 cr. each quarter. Prerequisite, consent of instructor and course 118. The results of modern experimental bacteriology and hygiene. Each student may be assigned individual work in advanced technique. Mr. Hetler.

### For Graduates

**200. Advanced Bacteriological Problems.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, course 131 or equivalent and consent of instructor. Opportunity is given graduate students to pursue original or assigned investigations individually. Mr. Hetler.

## Botany

PROFESSORS JOSEPH W. SEVERY (CHAIRMAN), CHARLES W. WATERS;  
ASSISTANT PROFESSOR REUBEN A. DIETTERT. FRED A. BARKLEY, JOSEPH  
KRAMER, INSTRUCTORS.

**Major Requirements:** 50 or more credits including Botany 11, 12, 21, 22, 126, 3 credits of 129, 141, 142, 143. Zoology 125 may be applied in partial fulfillment of this credit requirement. The following courses must be completed: Biological Science 13abc; Zoology 11, 125, and Chemistry 11 or 13. Additional courses may be elected from the following: S14, 51, S61, 161ab, 165, 168.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Biology should consult the course requirements listed on page 90.

**General Information.** The region is rich in opportunity for research in ecology, pathology, systematic botany, and other branches of the science. Graduate work in these subjects leading to the degree of Master of Arts is offered.

### For Undergraduates

**S11a. General Botany.** 1 Q. Summer. 4 cr. No prerequisite. A presentation of the general principles of the anatomy and physiology of the flowering plants. Given in summer, 1941, and in alternate years. Mr. Diettert.

**S11b. General Botany.** 1 Q. Summer. 4 cr. No prerequisite. A broad outline of the classification of the plant kingdom; tracing of the possible stages in the evolution and development of the vegetative and reproductive structures of plants. Given in summer, 1940, and in alternate years. Mr. Diettert.

**11. General Botany.** 1 Q. Autumn. 5 cr. Prerequisite, Biological Science 13abc (13ab for Forestry majors). An intensive laboratory course in the morphology, anatomy, and phylogeny of plants, including vegetative and reproductive structures. Mr. Barkley. Mr. Diettert. Mr. Kramer.

**12. Classification of Spring Flora.** 1 Q. Spring. 3 cr. Prerequisite, Biological Science 13ab and consent of instructor. A laboratory and field introduction to the classification of the higher plants as exemplified in the spring flora. Students who have completed Botany 11c or 12b may not receive credit in this course. Mr. Barkley. Mr. Diettert.

**S14. Economic Botany.** 1 Q. Summer. 4 cr. No prerequisite. A treatment of plants from the standpoint of their uses and products; their geographic distribution; the methods of culture and utilization of those plants of chief economic importance. Not given summer, 1940.

**21. Plant Anatomy.** 1 Q. Autumn. 5 cr. Prerequisite, Botany 11 and 12. Detailed study of origin of organs and tissues of plants and a comprehensive survey of the anatomy of the higher plants. Mr. Kramer.

**22. Plant Physiology.** 1 Q. Winter. 5 cr. Prerequisite, Botany 11 and Chemistry 11 or 13. The functions of the living plant and an attempt to interpret functions in terms of chemical and physical reactions. Laboratory observations of the various processes of plants under controlled conditions. Mr. Diettert. Mr. Kramer. Mr. Severy.

**51. Plant Ecology.** 1 Q. Spring. 5 cr. Prerequisite, Botany 12 and 22. The relation of vegetation to the factors of the environment; the influence of environmental factors upon the distribution of plants; the problems of plant succession; plant geography. Mr. Kramer. Mr. Severy.

**S61. An Introduction to Systematic Botany.** 1 Q. Summer. 4 cr. Open to all students. The classification of flowering plants and a survey of the origin and relationships of the higher plants. Plant identification; use of a manual; methods of collecting, preserving, and mounting plants. The work deals with the summer flora of Western Montana. Mr. Diettert.



### For Undergraduates and Graduates

**121. Applied Histology.** 1 Q. Winter. 3 cr. Prerequisite, Botany 21. Methods and procedure essential for the dissection of stomachs and identification of stomach contents with some training in paraffin technique. Identification of contents based on stem and leaf remains and seeds. Mr. Diettert.

**125. Forest Pathology.** 1 Q. Winter. 5 cr. Prerequisite, senior standing and Botany 51 and Forestry 25ab, or Botany 161ab. The agencies of disease and decay of trees and structural timbers. Problems of government forests. Students who have completed Botany 31 may not receive credit in this course. Mr. Waters.

**126. Evolution.** 1 Q. Winter. 3 cr. Prerequisite, Zoology 125. The theories of evolution from the historical point of view; the nature of evolutionary processes, the evidence for evolution, and the factors of evolution. Not a laboratory course. Mr. Severy.

**129. Biological Literature.** See Zoology page 54.

**141. Morphology of the Thallophytes.** 1 Q. Autumn. 5 cr. Prerequisite, junior standing and Botany 11 and 12. A systematic study of the morphology and life histories of representative Thallophytes. Mr. Barkley.

**142. Morphology of the Bryophytes and Pteridophytes.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and Botany 11 and 12. Comparative morphology of the Bryophytes and Pteridophytes. Mr. Diettert.

**143. Morphology of the Spermatophytes.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and Botany 11 and 12. Morphology and life histories of representatives of the major groups of Gymnosperms and Angiosperms. Mr. Diettert.

**152. Advanced Physiology and Ecology.** 1 to 3 Q. Winter, spring. 3-5 cr. Prerequisite, Botany 22 or 51. Intensive study in advanced phases of plant physiology or plant ecology, with emphasis upon special methods and techniques used in investigation. Mr. Kramer. Mr. Severy.

**161a. Systematic Botany.** 1 Q. Winter. 5 cr. Prerequisite, junior standing and Botany 11 and 12. Classification of the flowering plants: Monocots, with special emphasis on the grasses; elements of nomenclature; methods of collecting, preserving, and mounting plants. Mr. Barkley.

**161b. Systematic Botany.** 1 Q. Spring. 5 cr. Prerequisite, junior standing and Botany 11 and 12. Classification of the flowering plants: Dicots, especially those of Montana. A field trip may be required. Mr. Barkley.

**162. Advanced Taxonomy.** 1 Q. Autumn. 3-5 cr. Prerequisite, Botany 161ab. A continued study of the classification of vascular plants, with additional practice in the determination of the more critical groups. Mr. Barkley.

**165. Mycology.** 1 Q. Autumn. 5 cr. Prerequisite, Botany 141, 142, 143 for Botany majors; Botany 125 for Forestry majors. The classification and relationships of the fungi, with training in their collection and preservation. Given in 1940-41, and in alternate years. Mr. Diettert.

**168. Microtechnique.** 1 Q. Any quarter, but preferably in the spring. 2-5 cr. Course may be repeated during a succeeding quarter to a maximum of 5 credits. Prerequisite, Botany 21. Methods of preparing microscopic slides; instruction in the paraffin method, venetian turpentine method, celoidin method, and the glycerine method. Mr. Diettert. Mr. Kramer.

### For Graduates

**200. Advanced Botanical Problems.** 1 to 3 Q. Any quarter. Credit variable. The department is prepared to arrange for properly qualified graduate students courses in plant anatomy, ecology, morphology, physiology, or taxonomy. Botany Staff.

## Physical Education

PROFESSORS DOUGLAS A. FESSENDEN, WILLIAM E. SCHREIBER (CHAIRMAN); ASSOCIATE PROFESSOR HARRY F. ADAMS (Intra-Mural Director). GEORGE P. DAHLBERG, CHARLES F. HERTLER, ELLEN JANE POTTER (Director of Women's Division), INSTRUCTORS.

**Major Requirements:** 45 or more credits in addition to courses 11abc and 12abc. The following courses must be completed: Phy-

sical Education 15abc, 20abc, 32, 35ab, 136, 137, 139, 141, 148, 149, 150, and 6 credits in 60, 61ab, 62ab, 63abc; Chemistry 11 or 13; Biological Science 13abc; Botany 11 and 12; Zoology 11 and 24. The following courses are recommended: Physical Education 45abc, 134, 146; Bacteriology 26, 19 or 117, 126; Zoology 23 and 105.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Physical Education should consult the course requirements listed on page 92.

**General Information.** All students taking part in the work of the Department are required to take the physical examination provided by the Department. This examination is given to every student entering the freshman or sophomore year.

All students enrolled in the State University for eight or more credits are required to take 1 credit hour each quarter until 6 credits of Physical Education 11abc, 12abc have been completed. Students who are physically unable to take the regular class work are given excuses or exemptions by the Chairman of the Department after consultation with the physician in charge of the case, or are required to enter corrective classes, or to do individual corrective work suited to their needs.

**Athletics.** All intercollegiate athletics are under the supervision of the Faculty Athletic Committee, varsity teams being maintained in football, basketball, track, and the minor sports.

Facilities are provided by the Department for participation in athletic work for every member of the student body, intra-mural competition being maintained in football, hockey, basketball, baseball, track, tennis, cross-country running, indoor baseball, boxing, wrestling, golf, gymnastics, and swimming.

Intercollegiate competition in minor sports—tennis, golf, wrestling, and swimming—is provided for by the minor sports board.

### For Undergraduates

**S1. Graded Games.** 1 Q. Summer. 1½ cr. Theory and practice of games suitable for the graded school, high school, and college. Mr. Hertler.

**S2. Training and Athletic Injuries.** 1 Q. Summer. 1 cr. Handling and conditioning the athlete for contests; treatment of some of the common athletic injuries. Not given summer, 1940. Mr. Schreiber.

**S5. Athletic Administration.** 1 Q. Summer. 2 cr. Theory of correlating competitive sports. Organization and administration; budgeting, financing, purchasing, and care of equipment; scheduling of contests; general planning of a program of interscholastic sports. Not given summer, 1940. Mr. Fessenden.

**11abc, 12abc. Freshman and Sophomore Physical Training (Men).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer, 1 cr. each quarter. Practical work in: swimming, floor work, apparatus work, competitive games, track, boxing, wrestling, tennis, golf, fencing, and cross-country running. No student will be given the final grade in the last quarter of this course until he has passed the elementary examination in swimming. Mr. Hertler and Staff.

**11abc, 12abc. Freshman and Sophomore Physical Training (Women).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer, 1 cr. each quarter. Practical work in hockey, tennis, recreative games, mass class drills, apparatus work, elementary and advanced dancing, swimming, fencing, basketball, volley ball, baseball, track, tennis, and golf. No student will be given a final grade in the last quarter of this course until she has passed the elementary swimming examination. Miss Potter and Staff.

**15abc. Advanced Gymnastics.** 3 Q. Autumn, winter, spring. 1 cr. each quarter for major and minor students only. Students may enter any quarter. Prerequisite, 12abc or marked gymnastic ability. Gymnastic mass

floor drills in the German and Swedish systems; apparatus work and military marching tactics; outdoor work in recreative games and athletics; class leading is also required in advanced swimming, diving, life saving, and in the 11abc, 12abc classes. Mr. Hertler. Miss Potter. Mr. Schreiber.

**20abc. Human Anatomy.** 3 Q. Autumn, 4 cr., winter, 4 cr., spring, 3 cr. Prerequisite, sophomore standing. Students may enter either 20b or 20c after completing 20a. Mr. Schreiber.

**21. Human Anatomy.** 1 Q. Autumn. 4 cr. Open only to student nurses. Students who have completed Physical Education 20abc may not receive credit in this course. Mr. Schreiber.

**32. First Aid.** 1 Q. Spring. Summer. 2 cr. Prerequisite, for students majoring in Physical Education, 20ab; for majors in Forestry, junior standing; all others, senior standing. Accidental injuries of the human body; methods of treatment. Red Cross certification may be secured on completion of the course. Mr. Schreiber.

**35a. Systems and Methods.** 1 Q. Autumn. 3 cr. Open only to major or minor students in Physical Education. Prerequisite, Physical Education 12abc. Various systems of physical education; their place in American schools; practical application in methods of handling gymnastic class work. Miss Potter.

**35b. Systems and Methods.** 1 Q. Winter. 3 cr. Prerequisite, Education 35a. A continuation of Education 35a. Miss Potter.

**45abc. Dancing Methods and Materials.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Summer, \$45, 3 cr. Students may enter any quarter. Prerequisite, junior standing. (a) Tap dancing. (b) Folk dancing. (c) Social dancing. Miss Potter.

**\*60. Coaching of Basketball.** 1 Q. Autumn. 4 cr. Summer. 2½ cr. Open to junior men. Theory and practice in handling work in basketball. Mr. Dahlberg.

**\*61ab. Coaching of Track.** 2 Q. Winter, spring. 2 cr. each quarter. Summer, 61a. 2½ cr. Open to junior men. (a) Theory. (b) Practice. Mr. Adams.

**\*62ab. Coaching of Football.** 2 Q. Spring, winter. 2 cr. each quarter. Summer. 4 cr. Open only to men of at least sophomore standing. 62a is prerequisite to 62b. (a) Practice. (b) Theory. Mr. Fessenden.

**63abc. Coaching for Women.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 63a and c. 3 cr. Prerequisite, Education 18 or concurrent registration. Course includes methods and materials. (a) Swimming, speedball. (b) Basketball, volley ball. (c) Tennis, baseball. Miss Potter.

### For Undergraduates and Graduates

**134. Playgrounds.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing. History, construction, equipment, problems, management, methods of conducting, and practical work in supervision of playgrounds; theory of play. Miss Potter.

**136. Kinesiology.** 1 Q. Winter. 5 cr. Open only to major students. Prerequisite, Physical Education 20ab. The anatomical mechanism of the most common and representative types of gymnastic movements and positions with the view of developing subjective control. Mr. Adams.

**137. School Gymnastics.** 1 Q. Spring. Summer. 4 cr. Prerequisite, Physical Education 35b. Methods of handling gymnastics in the graded and high schools. Types of work suitable for each grade. Mr. Hertler.

**139. Laws of Growth and Development.** 1 Q. Spring. 1 cr. Prerequisite, Physical Education 149. Open to major students only. The laws of growth and development of the child from birth to adult years; the application of physical education to these laws. Mr. Schreiber.

**141. Corrective Gymnastics.** 1 Q. Winter. 5 cr. Prerequisite, Physical Education 136 and 137. Open only to major students. The prevention and correction of deformities in the child. Mr. Schreiber.

**146. Massage.** 1 Q. Spring. 2 cr. Prerequisite, Physical Education 20ab. Open only to major students. The place of massage in therapeutics and physical education. Methods and use of the various types of massage. Practical application. Miss Potter. Mr. Schreiber.

**148. Physiology of Exercise.** 1 Q. Autumn. 2 cr. Prerequisite, Zoology 24. Open only to major students. The physiological effects of the different types of exercises on the functions of the human body. Mr. Schreiber.

\*Students who completed former course 143abc, Principles of Coaching, may not receive full credit for this course.

**149. Anthropometry and Diagnosis.** 1 Q. Autumn. 3 cr. Prerequisite, Physical Education 20ab or concurrent registration. Open only to major students. Examination of the human body for external signs of disease. Anthropometric measurement and tests; how to use and chart them; their value in physical education. Mr. Schreiber.

**150. Organization and Administration.** 1 Q. Winter. Summer. 4 cr. Open to junior major students. The organization and administration of high school physical education departments. Management of the physical education plant. Mr. Hertler.

### For Graduates

**201. Problems of Physical Education.** 1 Q. Summer. 4 cr. Miss Potter.

**202. Health Education.** 1 Q. Summer. 4 cr. The place of health education in elementary and high school. The field; the curriculum for schools; methods and materials to be taught. Mr. Schreiber.

**203. Tests and Measurements in Physical Education.** 1 Q. Summer. 4 cr. Types of tests and their reliability as part of a testing program. Methods for establishing distribution of scores; pupil rating in groups; correlation of scores. Mr. Hertler.

## Psychology and Philosophy

PROFESSORS ERNST A. ATKINSON, FRANKLIN O. SMITH (CHAIRMAN);  
ASSISTANT PROFESSOR EDWIN L. MARVIN.

**Major Requirements:** 45 or more credits, including Psychology 11, 12ab, 14, 111, 130, and 190.

Senior examinations will not be given except to candidates for honors.

### For Undergraduates

**11. General Psychology.** 1 Q. Autumn. Winter. Spring. 5 cr. Summer. 4 cr. Entering freshmen may not register for this course in the autumn quarter. An outline study of the whole field, and an introduction to the special courses in Psychology. Psychology Staff.

**12ab. Experimental Psychology.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Psychology 11. Laboratory methods, and apparatus used in the study of some of the laws of mental processes, and their application. Mr. Atkinson.

**13. Child and Adolescent Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11. The development of the child; comparative studies with animal intelligence and behavior. Mr. Marvin.

**14. Social Psychology.** 1 Q. Winter. 5 cr. Prerequisite, Psychology 11. A study of the social aspects of mental life; the psychological processes of groups. Mr. Smith.

**15. Psychology of Personality.** 1 Q. Spring. 3 cr. Summer. 4 cr. Prerequisite, Psychology 11. Mr. Smith.

**16. Psychology of Adjustment.** 1 Q. Spring. 2 cr. Prerequisite, Psychology 11. Personal and social adjustment; mental conflicts; mental hygiene. Mr. Smith.

**19. Educational Psychology.** See courses in Education.

**30. Applied Psychology.** 1 Q. Winter. 5 cr. Prerequisite, Psychology 11. General principles of applied psychology; special reference to vocational and avocational psychology; the psychology of law, medicine, industry, music, religion, art, literature. Mr. Atkinson.

**32. Psychology of Business.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 11. Mr. Atkinson.

**33. Vocational Psychology.** 1 Q. Winter. 4 cr. Prerequisite, Psychology 11. A study of the psychological principles in determining vocational fitness; theory and technique of objective methods of selection and guidance; special and general aptitude tests, trade tests, and rating scales, with special reference to the student's occupational problems. Not given in 1940-41.

**50. Logic.** 1 Q. Spring. 5 cr. Prerequisite, sophomore standing. Mr. Marvin.

**51. Ethics.** 1 Q. Winter. 5 cr. Prerequisite, sophomore standing. Inquiry into the nature of moral life, the evolution of ethics, the psychology of conduct, the meaning of moral values, with applications to current problems in the fields of law and justice, peace and war, marriage and the family, property, and business. Mr. Marvin.

**52abc. History of Philosophy.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, sophomore standing. Mr. Marvin.

**55. Introduction to Philosophy.** 1 Q. Spring. 3 cr. Prerequisite, sophomore standing. The major philosophical problems and their bearing on contemporary thought and culture. An attempt to give the student an approach and a background which will aid him in formulating his own philosophy of life. Mr. Marvin.

### For Undergraduates and Graduates

**111. Advanced Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, junior standing, Psychology 11, and consent of the Chairman of the Department for students other than Psychology majors. Intensive study of the principles, and an attempt to integrate the various phases of psychology. Mr. Smith.

**115. Abnormal Psychology.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, junior standing and Psychology 11. A study of abnormal phenomena and mental diseases; sleep and dreams; the subconscious; hypnotism; psychoanalysis. Mr. Atkinson.

**130. Mental Measurements.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and Psychology 11. Designed for those preparing for work in education and social service. Methods of measuring intelligence. Mr. Atkinson.

**190. Problems in Psychology.** 3 Q. Autumn, winter, spring. Credit variable. Open to junior students who are qualified to do creditable work on special problems. Not more than nine credits may be applied towards graduation. Psychology Staff.

### For Graduates

**201. Research.** Any quarter. Credit variable. Prerequisite, Psychology 11 and 130 or equivalent. Work on selected problems under direction. Psychology Staff.

**Psychological Colloquium.** No credit. A monthly meeting for one or two hours of the departmental staff and advanced students in Psychology for the discussion of research problems and technical reports by visiting speakers. Psychology Staff.

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## Zoology

PROFESSORS GORDON B. CASTLE (CHAIRMAN), GEORGE FINLAY SIMMONS; ASSISTANT PROFESSOR LUDVIG G. BROWMAN. PHILIP L. WRIGHT, INSTRUCTOR.

**Major Requirements:** 50 or more credits including Zoology 11, 23, 24, 102, 125, 126, 128, 3 credits of 129, and 5 credits of 132 (I). The following courses must be completed: Biological Science 13abc, Botany 11 and 12, and Chemistry 11 or 13. Students who contemplate graduate work in Zoology should elect during the junior and senior years, Physics 20abc and Zoology 105, and should secure a reading knowledge of French or German.

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Students who plan to secure a certificate to teach with minor preparation in Biology should consult the course requirements listed on page 90.

Senior examinations will not be given except to candidates for honors.

### For Undergraduates

**S11ab. Elementary Zoology.** 2 Q. Summer. 4 cr. for each summer's work. Open to all students. (a) Morphology, physiology and phylogeny of the Protozoa, Coelenterata, Platyhelminthes, Nematelminthes, Mollusca, Annelida, and Arthropoda. (b) Morphology, physiology, and phylogeny of the Echinodermata, Acraniates, and a typical craniate (frog). Introduction to meiosis, embryology, genetics, and evolution. Summer, 1940, S11a is offered.

**11. General Zoology.** 1 Q. Winter. 5 cr. Prerequisite, Biological Science 13abc (13ab for Forestry majors). An intensive laboratory course in the morphology, anatomy, and phylogeny of animals. Introduction to mitosis, meiosis, histology, and early embryology. Mr. Browman. Mr. Wright.

**S14. Eugenics.** 1 Q. Summer. 3 cr. Open to all students. The fundamental principles involved in the better development of man and animals. This is not a laboratory course. Given summer, 1940. Mr. Castle.

**S17. Methods of Teaching Science.** 1 Q. Summer. 4 cr. Prerequisite, ten hours of laboratory science and five of Education. The organization of biological and physical science materials, subject matter, and improvement of instruction at the secondary school level. Not given summer, 1940. Mr. Browman.

**23. Comparative Vertebrate Zoology.** 1 Q. Spring. 5 cr. Prerequisite, course 11 or equivalent. Comparative anatomy, development, and phylogeny of the vertebrates. Mr. Browman.

**24. Human Physiology.** 1 Q. Spring. 5 cr. Summer. 4 cr. Prerequisite, sophomore standing. The problems of digestion, absorption, circulation, respiration, excretion, irritability, and locomotion, together with the physiological phenomena associated with tissue repair, growth, and reproduction. Mr. Browman.

### For Undergraduates and Graduates

**101. General Comparative Embryology.** 1 Q. Autumn. 5 cr. Prerequisite, Zoology 11 and junior standing. The early stages of development of the invertebrates and vertebrates, including maturation of the germ cells, fertilization, cleavage, formation of germ layers, and origin of the embryo. Given in 1940-41, and in alternate years. Mr. Browman.

**102. Vertebrate Embryology.** 1 Q. Winter. 5 cr. Prerequisite, Zoology 11 and junior standing. Later development especially of the vertebrates, with emphasis on birds (chick) and mammals (pig). A study of organ formation, based on prepared histological material, with a consideration of experimental evidence. Mr. Browman.

**103. Parasitology.** 1 Q. Autumn. 2 cr. Prerequisite, Zoology 11 and junior standing. An introduction to animal parasitology with emphasis on parasites of game animals. Mr. Wright.

**105. General Histology.** 1 Q. Autumn. 5 cr. Prerequisite, Zoology 23 and junior standing; knowledge of chemistry is recommended. Methods of fixation, sectioning, and staining animal tissues. Use of the microscope and a study of basic tissues. Mr. Wright.

**107. Aquatic Biology.** 1 Q. Autumn. 3 cr. Prerequisite, Zoology 11, junior standing, and Botany 11. The plants and animals which make up the diet of fishes and the taxonomy and ecological distribution of the common game and coarse fishes. Given in 1941-42, and in alternate years. Mr. Castle. Mr. Severy.

**108. Ornithology.** 1 Q. Spring. 4 cr. Prerequisite, Zoology 23 and junior standing. The life histories, habits, and distribution of birds. Given in 1940-41, and in alternate years. Mr. Wright.

**109. Mammalogy.** 1 Q. Spring. 4 cr. Prerequisite, Zoology 23 and junior standing. The life histories, habits, and distribution of mammals, with some experience in field identification and preparation of skeletons and skins. Given in 1941-42, and in alternate years. Mr. Wright.

**118. Forest Entomology.** 1 Q. Autumn. 3 cr. Prerequisite, Zoology 11 and junior standing. The more common forest insects of Western Montana from the standpoint of distribution, economic importance, and methods of control. Mr. Castle.

**125. Genetics.** 1 Q. Autumn. 5 cr. Prerequisite, Zoology 23 or Botany 22, and junior standing. The facts and theories of heredity, mechanisms of heredity, involving considerations of segregation, random assortment, linkage systems, and mutations, and their relations to visible cell processes. Mr. Browman.

**126. Evolution.** See Botany, page 48.

**128. Animal Ecology.** 1 Q. Spring. 5 cr. Prerequisite, Zoology 11 and junior standing. The relationship between animals and their environment, illustrated by field studies of animal communities in Western Montana. Mr. Castle.

**129. Biological Literature.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, senior standing and 20 credits in Zoology or Botany. Reviews of recent literature as a survey of the trend of study and experimentation in biological fields. Reports of special studies. Zoology and Botany Staffs.

**131. Advanced Vertebrate Zoology.** 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 23, senior standing, and consent of instructor. (I) Morphology. (II) Endocrinology. (III) Ecology. (IV) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Mr. Browman. Mr. Simmons. Mr. Wright.

**132. Advanced Invertebrate Zoology.** 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 11, senior standing, and consent of instructor. (I) Morphology and Taxonomy. (II) Ecology. (III) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Mr. Browman. Mr. Castle.

### For Graduates

**200. Advanced Zoological Problems.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Opportunity is given graduate students with sufficient preparation and ability to pursue original investigations. Zoology Staff.

## DIVISION OF THE HUMANITIES

PROFESSOR HAROLD G. MERRIAM, CHAIRMAN.

The following course is offered as a general survey of the field of the Humanities.

**15abc. Introduction to the Humanities.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students may enter any quarter. Students who have completed 8 or more college credits in literature may not receive credit in this course. Acquaintance with art, music, and literature through the centuries from the Greeks to Americans, with the primary aims of understanding and appreciation. A teaching materials fee of twenty-five cents is charged each quarter. Offered conjointly by the Departments of English, Fine Arts, Modern and Classical Languages, and the School of Music. Mr. Clark. Mr. Coleman. Mr. Crowder. Mrs. Ephron. Mr. Freeman. Mr. Merriam. Mr. Yphantis.

Students who expect to do major work in English or in Dramatics and Speech must register for English 25abc instead of Humanities 15abc.

## Classical Languages

PROFESSOR WESLEY P. CLARK (CHAIRMAN). MARGUERITE HEINSCH EPHRON, INSTRUCTOR.

**Major Requirements:** The requirement is in attainment rather than credits. Four courses numbered above 100 should assure a good major in Latin. Two courses in Greek may be substituted for two in Latin. Humanities 15abc and History 15 and 16 are recommended.

Senior Examinations are required of all students who major in Latin.

Students who plan to secure a certificate to teach with minor preparation in Latin should consult the course requirements listed on page 90.

**General Information.** Placement examinations are required of all students who continue a language in which entrance credit is presented. Students who offer two entrance units should enter Latin 13a; those offering four units, 15a, subject, however, to the placement examination. The restricted elective requirement is fulfilled upon completion of course 13a for students who present adequate entrance units in Latin.

### Latin

#### For Undergraduates

**11abc. Elementary Latin.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Summer. 4 cr. For students who enter with no credit in Latin. Mr. Clark. Mrs. Ephron.

**13abc. Intermediate Latin.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Summer. 13a. 4 cr. Prerequisite, Latin 11c or equivalent. (a) Selections from Cicero and other studies for literary and historical value. (bc) Vergil's Aeneid I-VI. Introduction to poetry: reading of hexameter, appreciation of permanent values of the Aeneid. Mrs. Ephron.

**15ab. College Freshman Latin.** 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Latin 13c or equivalent. (a) Readings from Cicero's De Senectute and De Amicitia, or from Livy. (b) Catullus and Terence. Reading of the commonest metrical forms; outline of Roman literature. Mrs. Ephron.

#### For Undergraduates and Graduates

**101. Pliny and Martial.** 1 Q. Autumn. 5 cr. Prerequisite, Latin 15b and junior standing. Mr. Clark.

**107. Horace.** 1 Q. Winter. 5 cr. Prerequisite, Latin 15b and junior standing. Selected odes, epodes, satires, and epistles. Mr. Clark.

**139. Lucretius.** 1 Q. Spring. 5 cr. Prerequisite, Latin 15b and junior standing. Reading and appreciation of portions of De Rerum Natura. Not given in 1940-41. Mr. Clark.

**149. Writing Latin (Advanced).** 1 Q. Spring. 4 cr. Prerequisite, Latin 15b and junior standing. Prepared exercises in translating into Latin from text-book or selected passages of English. Given in 1940-41, and in alternate years. Mr. Clark.

**150. Latin Seminar.** 1 Q. Any quarter. 2-5 cr. Prerequisite, Latin 15b and junior standing. Advanced readings which fit the needs and interest of the student in selected periods and authors. Course may be repeated during succeeding quarters by variation in content. Mr. Clark.

#### For Graduates

**200. Research in Latin.** 3 Q. Any quarter. Credit variable. Directed individual work. Course may be repeated by variation in content. Given subject to demand. Mr. Clark.

### Greek

#### For Undergraduates

**11ab. Elementary Greek.** 2 Q. Winter, spring. 5 cr. each quarter. The reading method used; Attic Greek read from the first. Forms, vocabulary, idioms learned by use only. Mr. Clark.

**13ab. Intermediate Greek.** 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, Greek 11b or equivalent. (a) Selections from Plato and Herodotus. (b) Introduction to Greek Tragedy. Mr. Clark.

**15a. Advanced Greek.** 1 Q. Spring. 3 cr. Prerequisite, Greek 13b or equivalent. Selections from Lucian. Mr. Clark.

Further work in Greek will be offered as there may be a demand for it; the work will be suited to the interest of the students.

**20. Latin and Greek in Current Use.** 1 Q. Autumn. 2 cr. Open to all students. Cognate languages, language groups, word formation; derivatives from and elements of Greek and Latin required for understanding and making of scientific and other terminologies. This credit may not be applied toward the restricted elective requirement in language. Mr. Clark.

**99. Things New and Old.** 1 Q. Summer. 1 cr. Open to all students. Selected interesting men, books, and ideas of the past and present. This credit may not be applied toward the restricted elective requirement in languages. Mr. Clark.



## English

PROFESSORS EDMUND L. FREEMAN, HAROLD G. MERRIAM (CHAIRMAN), LUCIA B. MIRRIELES; ASSOCIATE PROFESSOR RUFUS A. COLEMAN; ASSISTANT PROFESSORS LARRAE A. HAYDON, DENNIS MURPHY. MARY B. CLAPP, RALPH Y. MCGINNIS, INSTRUCTORS.

**Major Requirements:** 50 or more credits in English. The required courses in English are listed in the three schedules given below, which are designed for students of three different types of needs and interests. By the beginning of his junior year the student should have decided definitely which of the schedules he is to follow. Fine Arts 31abc; Music 35abc; Psychology 14, 52abc, 55; and at least two quarters of study in sociology are strongly recommended. A reading knowledge in the literature of some foreign language, classical or modern, is recommended. See also **Dramatics and Speech**, page 58.

Senior examinations must be taken by all students who do major work in English or in Dramatics of Speech. The examinations will require elementary knowledge of critical literary terms and a general knowledge of the fields of English and American literature.

Students who plan to secure a teacher's certificate with minor preparation in English should consult the course requirements listed on page 91.

All freshmen will be given an examination in speech. During the year clinical work will be offered students who need correction.

### Required in all Schedules.

Freshman Year; English 25abc.

Sophomore Year: English 30a or 30b.

#### A. For Students Who Expect to do Graduate Work or to Teach English in a High School.

Sophomore Year: 59abc (two quarters).

Junior and Senior Years: 105, 169abc (two quarters), 173ac, 174bc, 192 (one quarter, preferably Chaucer), 199 (two quarters). The following courses are recommended: 69, 96 (two quarters), 187.

#### B. For Students Who Desire Literary Information and Appreciation.

Sophomore Year: 19 (or two quarters of 169abc in the junior year), 59abc (two quarters).

Junior and Seniors Years: 75abc (two quarters), 77abc (two quarters), 169abc (or 19 in the freshman or sophomore year), 173abc (two quarters), 174abc (two quarters).

#### C. For Students Primarily Interested in Creative Writing.

Sophomore Year: 19 (or two quarters of 169abc in the junior year), 57a or 57b.

Junior and Senior Years: 72abc (at least 6 credits); 75abc (one quarter); 77abc (one quarter); 169abc (two quarters or 19 in the freshman or sophomore year); 173abc, 174abc (two quarters); 187.

### Composition, Language, and Literature

#### For Undergraduates

A. **Preparatory Composition.** 1 Q. Autumn. Winter. Spring. No credit. Sub-freshman course designed to meet the needs of freshmen who fail to establish an acceptable college standard in the English placement examination at the time of entrance. A fee of \$5 is charged for this course. Mrs. Clapp.

**11ab. English Composition.** 2 Q. Autumn, winter. Winter, spring. 3 cr. each quarter. Required of all students (except English and Dramatics and Speech majors) in the sophomore year. Freshmen who place high in the placement examination may be exempted from 11a and in the sophomore year proceed at once to 11b. Students who receive a grade of A in 11a are exempted from further work in composition. The gathering and organization of material, the writing of papers, and the development of personal ideas. Study of words and syntax. Mr. Murphy and Staff.

**19. Technique of Poetry.** 1 Q. Spring. Summer. 4 cr. Open to all students. Understanding of poetry through technical analysis of forms, conceptions, and modern trends. Guidance in writing verse for students who desire it. Mr. Murphy.

**25abc. Literature and Composition.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Open only to freshmen who expect to do their major work in English or Dramatics and Speech. Not open to freshmen who place in English A. Students who have completed course 11a or b; Humanities 15abc; the former course 25ab or 57a may not register for this course for credit. Three-fifths of the work each week is a study of world literature with extended reading of Shakespeare's plays and poems; two-fifths is practice in writing. Mr. Merriam.

**S29. Lectures.** 1 Q. Summer. 1 cr. Open to all students.

**30ab. Composition.** 2 Q. Autumn, spring. Winter. Spring. 3 cr. each quarter. Summer. Students may enter either quarter. Prerequisite, English 11ab or sophomore standing and a grade of A in 11a. (a) Autumn. Winter. Spring. A study of exposition. (b) Spring. A beginner's course in the writing of narrative. Mr. Freeman. Mr. Murphy.

**S51. Backgrounds of Irish Literature.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing. The nature of folklore, tall tales, fairy tales, the prehistoric cycles of Ireland; Christian touches to these; subsidence of folk activity under political disturbance; revival and recreation in recent writers. Mrs. Clapp.

**55abc. Contemporary Literature.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, sophomore standing. Students may enter any quarter. (a) Contemporary American magazines. (b) American essay and fiction. (c) Biography, drama, short story. Some attention is given verse and non-fictional material in b and c. Miss Mirrielees.

**57abc. Shakespeare and Contemporaries.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 57c. Prerequisite, sophomore standing. Students may enter any quarter. (a) Dramatic beginnings in England; Shakespeare and his fellow craftsmen contrasted in relation to different dramatic forms. About twelve plays will be read. (b) Intensive study of three of Shakespeare's plays. Source materials. (c) Extensive reading of Shakespeare's plays. Background material. Students who have completed 25abc may not receive credit in 57c. Mr. Coleman.

**S58. General Literature.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing. The aims and values in types of literature.

**59abc. American Literature.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 59b. Prerequisite, sophomore standing. (a) The Colonial period to 1830. (b) 1830-1880. (c) 1880 to the present day. Mr. Coleman.

**72abc. Literary Composition.** 3 Q. Autumn, winter, spring. 1-3 cr. each quarter. Prerequisite, junior standing and English 30a or 30b or consent of instructor on the basis of submitted writings. The writing of fiction and other literary forms. Mr. Murphy.

**75abc. The Novel.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) English fiction. (b) Continental fiction. (c) American fiction. Given in 1940-41, and in alternate years. Mr. Coleman. Mr. Murphy.

**77abc. The Drama.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) Periods of world drama. (b) Drama since Ibsen, in England and in Europe. (c) Contemporary American drama. Given in 1941-42, and in alternate years. Mr. Merriam.

**96. English Club.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to English major students in the senior year. Discussion of literary terms and forms; current trends in literature; papers. English Staff.

### For Undergraduates and Graduates

**105. The Teaching of English.** 1 Q. Winter. 4 cr. Prerequisite, senior standing. Miss Mirrielees.

**S155. Contemporary Literature: American.** 1 Q. Summer. 4 cr. Prerequisite, junior standing and nine credits in literature. Recent materials, patterns, and trends in contemporary American prose and poetry.

**169abc. Literary Values.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing and 9 credits in literature. (a) Literary terms and forms. (b) History of criticism. (c) Contemporary theories of value. Not given 1940-41. Mr. Merriam.

**173abc. British Literature (1500-1745).** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 173a. Students may enter any quarter. Prerequisite, junior standing and for 173a one quarter of 57abc and 6 credits in literature; for 173bc, 9 cr. in literature courses. (a) Renaissance verse and prose. (b) Literature up to the Restoration. (c) Restoration and early eighteenth century literature. Mr. Coleman. Mr. Murphy.

**174abc. British Literature (1745-1914).** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 174c. Students may enter any quarter. Prerequisite, junior standing and 9 credits in literature; 173c recommended for 174a. (a) Late eighteenth century literature. (b) Writing of the Romantic and early Victorian periods. (c) Victorian and Edwardian literature. Mr. Freeman.

**S177c. American Drama.** 1 Q. Summer. 4 cr. Prerequisite, junior standing and 9 credits in literature. Historical approach to the drama with emphasis upon the contemporary scene; special reference to the experiments of Eugene O'Neill.

**187. The English Language.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 9 credits in composition or literature. Survey of the development of the English language. Words and word histories. Miss Mirrielees.

**192. Major Writers.** 1 Q. Autumn. Winter. Spring. Summer. 3 cr. Prerequisite, senior standing and 18 credits in literature. The subject and the instructor change from quarter to quarter. Each year a study of Chaucer will be offered. English Staff.

**199. Seminar.** 3 Q. Autumn, winter, spring. 1-3 cr. each quarter. Continuous for any 2 quarters. Summer 1-3 cr. Prerequisite, senior standing and consent of instructor. First instruction and practice in research. Mr. Freeman. Mr. Merriam.

### Dramatics and Speech

For curriculum of freshman and sophomore years see Division of Humanities, page 42.

Junior year: English 15 or 16 (one quarter), 30a, 59bc, 62ab, 21, 42, 168 (or minor elective); Education 18, 19, 66 (or education elective); classical or modern language (or minor elective).

Senior year: English 105, 143, 174abc (two quarters), 168 (or minor elective); Education 22 and 26.

Students who plan to secure a certificate to teach with minor preparation in Dramatics and Speech should consult the course requirements listed on page 91.

### For Undergraduates

**15. Applied Acting; Voice and Diction.** 3 Q. Autumn, winter, spring. Summer. 1-2 cr. each quarter. Students may enter any quarter. Sophomores may elect the course for only 1 credit each quarter. Principles and practice of acting; participation in the production of plays. Fundamentals of good voice and articulation, proper breathing, and sound attitude. With consent of instructor, may be repeated to a maximum of 8 credits by majors in Dramatics and Speech. Mr. Haydon.

**16. Applied Stagecraft.** 2 Q. Autumn, winter. Summer. 1-2 cr. each quarter. Open to all students. Sophomores may elect the course for only 1 credit each quarter. Principles and practice of stagecraft. Exercises in construction, planning, and lighting of scenery and costumes. Participation in production of plays. With consent of instructor may be repeated to a maximum of 6 credits by majors in Dramatics and Speech. Mr. Haydon.

**20. Principles of Speech.** 1 Q. Autumn. Winter. Spring. 5 cr. A beginning course in public speaking with platform practice. Emphasis on audience analysis, purpose, organization of thought, and conversational delivery. Mr. Haydon. Mr. McGinnis.

**21. Argumentation.** 1 Q. Winter. 5 cr. Summer. 4 cr. Open to freshmen but only with consent of instructor. The principles of persuasive speaking with special attention to their application to debate. Research, analy-

sis, evidence, logic, speech composition. Class arguments on current problems. Mr. McGinnis.

**42. Discussion.** 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. Theory and application of discussion and group thinking. Extempore speaking in discussion groups. Research, analysis, and organization of thought in the solving of problems. Given in 1941-42, and in alternate years. Mr. McGinnis.

**44. Fundamentals of Speech.** 2 Q. Autumn, winter. Continuous. 6 cr. Prerequisite, sophomore standing. Study of the social, physiological, neurological, and psychological bases of speech, leading to an understanding of speech as a mode of behavior. Speech correction. Given in 1904-41, and in alternate years. Mr. Haydon. Mr. McGinnis.

**45ab. Radio Speech.** 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, English 20 and Music 45a. Study of the adaptation of speech composition and presentation to the broadcasting situation. Script writing, program building, announcing. (a) Speech. (b) Drama. Given in 1941-42, and in alternate years. Mr. Haydon. Mr. McGinnis.

**46ab. Acting.** 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, sophomore standing and one quarter of 15. Theory and practical application in productions. Mr. Haydon.

**47. Makeup.** 1 Q. Autumn. 2 cr. Prerequisite, 2 quarters of course 16. Principles of stage makeup. Mr. Haydon.

**61. Business and Professional Speaking.** 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. Organization and adaptation of speech materials to special types of audiences. Practice in preparing speeches and lectures on subjects of business or professional interest to the student. Given in 1940-41, and in alternate years. Mr. McGinnis.

**62. Play Directing.** 2 Q. Autumn, winter. Continuous. 4 cr. Summer. 4 cr. Prerequisite, junior standing, one quarter of course 15, and one quarter of 16; English 46ab recommended. Theory and practice of play presentation, including play selection; budgets. Directing for children's theater, high school, and non-professional theater; Little Theater management. Mr. Haydon.

**69. Oral Interpretation.** 2 Q. Winter, spring. Continuous. 4 cr. Summer. 4 cr. Open to major students of junior standing; to others only with consent of instructor. Practice in reading aloud, with criticism. Mr. McGinnis.

### For Undergraduates and Graduates

**143. Advanced Public Speaking.** 1 Q. Autumn. 4 cr. Prerequisite, English 20, 21, 42, 44. Theory of oral style. Study of models of speech composition. Mr. McGinnis.

**168. History of the Theater.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and 10 credits selected from courses 15, 16, 46ab, 57abc, 62, or 77abc. History of the theater, drama, acting, and stagecraft, with tributary arts from the beginning to the present day. Mr. Haydon.

## Fine Arts

ASSISTANT PROFESSOR GEORGE YPHANTIS.

**Major Requirements:** 54 or more credits, including courses: Fine Arts 23, 30abc, 31abc, and fifteen credits of 123. One quarter's work in sculpture may be substituted for the work of one quarter in painting.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Fine Arts should consult the course requirements listed on page 91.

### For Undergraduates

**S12. Elementary Drawing.** 1 Q. Summer. 2 cr. Open to all students. Freehand drawing from indoor and outdoor objects, still life, and costumed model, in various media including pencil, charcoal, and wash.

**S13. Color and Design.** 1 Q. Summer. 4 cr. Open to all students. Analysis of the decorative properties of line, value, color, area, pattern; abstract and naturalistic problems of design in various media.

**S21. Fundamentals of Art Appreciation.** 1 Q. Summer. 1½ cr. Open to all students. Lectures and discussions on the essentials in architecture, painting, and sculpture. Not given summer, 1940.

**23. Drawing.** 3 Q. Autumn, winter, spring. 15 cr. Continuous any two quarters. Open to all students in the autumn and winter quarters. An intensive course in the fundamentals of drawing taught from indoor and outdoor subjects, still life, casts, models, in various media including pencil, charcoal, crayon, and water color. Perspective is taught in the winter quarter; artistic anatomy in the spring quarter, by lectures illustrated with diagrams, the skeleton, anatomical casts, and the living model; portrait drawing is included in the work of the spring quarter. Mr. Yphantis.

**30abc. Painting.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Summer, S30. 2 cr. Prerequisite, Fine Arts 23 or consent of instructor. Theory of color, still life painting and composition, painting from the cast, and landscape. Mr. Yphantis.

**31abc. History of Art.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. (a) Pre-historic art to Roman art. (b) Art of the Middle Ages through the art of the Italian Renaissance. (c) Late Renaissance and Modern art. Oriental art. A comprehensive treatment of every important art movement related to corresponding social and mental backgrounds, with the analysis and appreciation of the fundamentals of painting, sculpture, and architecture. Mr. Yphantis.

**S40. Water Color.** 1 Q. Summer. 3 cr. Prerequisite, 5 credits of course 23. Water color techniques, pictorial organization, and expressive and effective use of subject matter.

**S49. Sculpture.** 1 Q. Summer. 3 cr. Prerequisite, five credits of drawing or consent of instructor. Clay modeling, wood carving, and composition problems in sculpture. May be repeated for credit during three quarters. Not given summer, 1940.

**51. Life Drawing.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Fine Arts 23 or consent of instructor. A concentrated study of the human figure, particularly in the medium of charcoal and crayon. With consent of instructor, course may be repeated to a maximum of 6 credits. Mr. Yphantis.

### For Undergraduates and Graduates

**123. Advanced Painting.** 3 Q. Autumn, winter, spring, 5 cr. each quarter. Prerequisite, Fine Arts 30abc, or 10 credits of 30abc and consent of instructor. Portrait, figure, and landscape painting and composition. This course may be repeated for credit with consent of instructor. Mr. Yphantis.

## Library Economy

ASSISTANT PROFESSORS KATHLEEN CAMPBELL, M. WINNIFRED FEIGNER, M. CATHERINE WHITE. RUBY E. EGBERT, GLADYS E. JOHNSON, MAUDA P. SANDVIG, LUCILE SPEER, INSTRUCTORS.

**Major Requirements:** 42 or more credits, including Library Economy 14ab, 16ab, 20abc, 22abc, 26, 28abc, and 31. The equivalent of course 13b in both French and German, and course 15 in either language is required.

Students who major in this department are required, either in their freshman or sophomore year, to do 150 hours of field work in a library which contains more than 10,000 volumes. No credit will be given for such work. Ability to use a typewriter is necessary.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Library Economy should consult the course requirements listed on page 91.

### For Undergraduates

**Note:** Junior standing is prerequisite to all courses listed in the department except course 26.

**14ab. Classification.** 2 Q. Autumn, winter. 3 cr. each quarter. History of classification; comparison of the systems; a detailed study of the Dewey decimal system. Choice of subject headings for a dictionary catalog. Given in 1940-41, and in alternate years. Miss Egbert.

**16ab. Cataloging.** 2 Q. Winter, spring. 3 cr. each quarter. Principles of dictionary cataloging with special reference to choice of forms in author headings. Practice in cataloging. Given in 1940-41, and in alternate years. Miss Speer.

**20abc. Reference.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Introduction to general and specialized reference works in English and general works in foreign languages. Practical problems in reference work. Given in 1941-42, and in alternate years. Miss White.

**22abc. Book Selection.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Principles of book selection, reviewing of books, practice in use of aids, preparation of reading lists and book annotations. Given in 1941-42, and in alternate years. Miss Campbell.

**26. Library Practice.** 1 Q. Spring. 2 cr. Open to library majors with senior standing. Practical library experience under supervision of librarians of city, county, high school, or university libraries. Miss Feighner.

**28abc. Library Administration.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Growth of librarianship as a profession, history and development of American libraries, personnel problems, departmental organization and routines, organization, support, and administration of libraries. Given in 1940-41, and in alternate years. Miss Campbell.

**31. Book Buying, Ordering, and Trade Bibliography.** 1 Q. Spring. 2 cr. Routine of ordering. Problems concerning book dealers, allocation of book funds, trade discounts. Practice in use of aids. Given in 1940-41, and in alternate years. Miss Johnson.

**39. Public Documents.** 1 Q. Winter. 2 cr. Acquisition, care, and reference use of government publications. Practical problems dealing with document catalogs, indexes, and check lists. Given in 1941-42, and in alternate years. Miss Speer.

**41. History of the Book.** 1 Q. Winter. 2 cr. The evolution of the book; emphasis on the important development of printing in the occidental world after 1450. Given in 1940-41, and in alternate years. Miss Feighner.

**42. School Libraries.** 1 Q. Summer. 3 cr. Organization and management; book selection, simpler cataloging and classification; selection and use of reference materials. Students who have completed Library Economy S28 may not receive credit in this course.

## Modern Languages

PROFESSORS LOUISE G. ARNOLDSON, RUDOLPH O. HOFFMAN, BART E. THOMAS (CHAIRMAN); ASSOCIATE PROFESSOR PAUL A. BISCHOFF; ASSISTANT PROFESSORS RUDOLPH J. SCHLUETER, FLORA B. WEISBERG.

**General Information.** Not more than 90 credits in all languages may be counted towards the Bachelor of Arts degree. Placement examinations are required of all entering students who continue languages in which entrance credit is presented (see page 21). Students who have one high school unit in a modern language should enter course 13a; those with two units, 15; those with three units, courses numbered over 100, subject, however, to a placement examination.

Senior examinations will not be given except to candidates for honors.

### French

**Major Requirements.** Candidates for the degree of Bachelor of Arts in French must meet the following requirements:

1. French 11 to 119 inclusive, or equivalent, and 15 credits selected from courses numbered 121 to 132 inclusive. If a student, on the

basis of a placement examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

2. Five quarters (or equivalent) of another language. Students should not start another language until they have had three quarters of work in the first language.

3. Two quarters in the history of Europe, chosen from the following: History 28, 29, 30ab, 33.

Students who plan to secure a certificate to teach with minor preparation in French should consult the course requirements listed on page 91.

### For Undergraduates

11. **Elementary French.** 2 Q. Autumn, winter. Winter, spring. Continuous. 10 cr. Summer. 4 cr. French Staff.

13a. **Intermediate French.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, French 11 or equivalent. French Staff.

13b. **Intermediate French.** 1 Q. Autumn. Winter. 4 cr. Prerequisite, French 13a or equivalent. French Staff.

15. **Advanced French.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, French 13b or equivalent. French Staff.

### For Undergraduates and Graduates

115. **Practical Phonetics.** 1 Q. Autumn. Spring. 1 cr. Prerequisite, French 15 or equivalent. Mr. Hoffman.

117. **French Grammar Review and Composition.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, French 15 or equivalent. French Staff.

119. **General Survey of French Literature.** 1 Q. Autumn. Spring. 4 cr. Prerequisite, French 117 or equivalent. Mrs. Arnoldson.

121. **The 17th Century French Literature.** 1 Q. Autumn. 3 cr. Prerequisite, French 117 or equivalent. Given in 1941-42, and in alternate years. Mr. Hoffman.

123. **The 18th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 117 or equivalent. Given in 1941-42, and in alternate years. Mrs. Arnoldson.

125. **French Culture and Life.** 1 Q. Autumn. 3 cr. Prerequisite, French 117 or equivalent. Given in 1940-41, and in alternate years. Mr. Hoffman.

126. **French Poetry.** 1 Q. Spring. 3 cr. Prerequisite, French 117. Given in 1941-42, and in alternate years. Mr. Hoffman.

127. **The 19th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 117 or equivalent. Given in 1940-41, and in alternate years. Mrs. Arnoldson.

131. **Advanced French Composition.** 1 Q. Spring. 3 cr. Prerequisite, French 117 and one additional course numbered over 100, or equivalent. Given in 1940-41, and in alternate years. Mr. Hoffman.

132. **Seminar: Studies in Outstanding Writers.** 1 or 2 Q. Winter. Spring. 2-3 cr. Open to French majors of senior standing with consent of instructor. Writer and instructor change from quarter to quarter, and from year to year. Not more than six credits may be applied towards graduation. French Staff.

### German

**Major Requirements.** Candidates for the degree of Bachelor of Arts in German must meet the following requirements:

(1) German 11 to 119 inclusive, or equivalent, and 15 credits selected from the courses numbered from 121 to 150 inclusive. If a student, on the basis of a placement examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

(2) Five quarters (or equivalent) of another language. Students should not start another language until they have had three quarters of work in the first language.

(3) Two quarters in the history of Europe, chosen from the following: History 28, 29, 30ab, 33.

Senior examinations will not be given except to candidates for honors.

### For Undergraduates

**11. Elementary German.** 2 Q. Autumn, winter. Winter, spring. Continuous. 10 cr. Summer, 11a. 4 cr. German Staff.

**13a. Intermediate German.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, German 11 or equivalent. German Staff.

**13b. Intermediate German.** 1 Q. Autumn. Winter. 4 cr. Prerequisite, German 13a or equivalent. German Staff.

**15. Advanced German.** 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, German 13b or equivalent. German Staff.

**16. Newspapers and Periodicals.** 1 to 3 Q. Any quarter. 1 cr. each quarter. Prerequisite, German 15 or equivalent. A course enabling students to keep in touch with the language of the day; of particular interest to students expecting to work for advanced degrees in science. German Staff.

### For Undergraduates and Graduates

**117. German Grammar, Composition, Conversation.** 1 Q. Spring. 4 cr. Prerequisite, German 15 or equivalent. Mrs. Weisberg.

**119. General Survey of German Literature.** 1 Q. Autumn. 3 cr. Prerequisite, German 117 or equivalent. Given in 1941-42, and in alternate years. Mr. Schlueter. Mrs. Weisberg.

**120. Lessing.** 1 Q. Autumn. 2 cr. Prerequisite, German 117 or equivalent. Given in 1940-41, and in alternate years. Mrs. Weisberg.

**121. Goethe.** 1 Q. Winter. 3 cr. Prerequisite, German 117 or equivalent. Given in 1941-42, and in alternate years. Mrs. Weisberg.

**122. German Lyrics.** 1 Q. Winter. 2 cr. Prerequisite, German 117 or equivalent. Given in 1940-41, and in alternate years. Mrs. Weisberg.

**123. Schiller.** 1 Q. Spring. 3 cr. Prerequisite, German 117 or equivalent. Given in 1941-42, and in alternate years. Mrs. Weisberg.

**129. German Novelle.** 1 Q. Spring. 2 cr. Prerequisite, German 117. Given in 1940-41, and in alternate years. Mrs. Weisberg.

**131. German Drama.** 1 Q. Spring. 3 cr. Prerequisite, German 117. Given in 1940-41, and in alternate years. Mr. Schlueter. Mrs. Weisberg.

**150. German Readings.** 1 Q. Any quarter. 2-5 cr. Prerequisite, German 117 or equivalent. Advanced readings which fit the interests and needs of the student selected from outstanding German writers. Course may be repeated during succeeding quarters by variation in content. German Staff.

### Spanish

The Spanish courses offer preparation (1) for prospective teachers or for those interested in literary information and (2) for students contemplating consular service, commercial work in Spanish-American countries, or governmental work.

**Major Requirements:** For (1) above, courses 11 to 119 inclusive, or equivalent, 15 credits selected from courses 121 to 133 inclusive, and History 23ab (Hispanic-American).

For (2) above, during the first two years students should complete courses 11 through 117, or equivalent, Social Science 11abc, History 21 (two quarters), Economics 14, and Psychology 11. The curriculum outlined below should be completed during the second two years.

**Junior year:** English 59abc or 174abc, or 20, 69, and 75a or b; Spanish 131 and 125; Economics 15 or 16; History 23ab; Business Administration 152 (Foreign Trade), 41 (Business Law), or History 106ab (International Law).

**Senior year:** English 77a, b, or c or 55a, b, or c; Spanish 132; Journalism 36; Economics 145 (Ethnography of the Americas), or 141 (Archaeology of North America).



Note: The total number of college credits required in Spanish varies with the student's high school preparation; the minimum requirement is 18 credits. Students who intend to complete the work in this field should consult early with the adviser of Hispanic studies.

Students who plan to secure a certificate to teach with minor preparation in Spanish should consult the course requirements listed on page 91.

### For Undergraduates

- 11. Elementary Spanish.** 2 Q. Autumn, winter. Winter, spring. 10 cr. Continuous. Summer, 11a. 4 cr. Spanish Staff.
- 13a. Intermediate Spanish.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, Spanish 11 or equivalent. Spanish Staff.
- 13b. Intermediate Spanish.** 1 Q. Autumn. Winter. 4 cr. Prerequisite, Spanish 13a or equivalent. Spanish Staff.
- 15. Advanced Spanish.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 13b or equivalent. Spanish Staff.

### For Undergraduates and Graduates

- 117. Spanish Grammar, Composition, Conversation.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 15 or equivalent. Mr. Thomas.
- 119. General Survey of Spanish Literature.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 117. A general survey of the literary history of Spain, assigned readings, and class discussions of masterpieces. Mr. Thomas.
- 121. Spanish Drama of the Golden Age.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 117. Given in 1941-42, and in alternate years. Mr. Thomas.
- 123. Spanish Novel and Drama of the 19th Century.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 117. Romanticism, the novel, and the drama of this century. Given in 1941-42, and in alternate years. Mr. Bischoff.
- 125. Spanish American Literature.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 117. Given in 1940-41, and in alternate years. Mr. Thomas.
- 127. Contemporary Spanish Drama.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 117. Given in 1940-41, and in alternate years. Mr. Bischoff.
- 129. Contemporary Spanish Novel.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 117. Given in 1940-41, and in alternate years. Mr. Bischoff.
- 131. Commercial Spanish.** 1 Q. Winter. 2 cr. Prerequisite, Spanish 117. Writing of Spanish commercial letters and a study of commercial practices in Spanish-America. Designed for students in Hispanic studies. Given in 1941-42, and in alternate years. Spanish Staff.
- 132. Spanish American Civilization.** 1 Q. Spring. 3 cr. Prerequisite, Spanish 117 for majors in Spanish or Hispanic studies who will do their collateral readings in Spanish; for other students, junior or senior standing. A study of the ideals, habits, and present social conditions of the peoples of Spanish-America. Spanish Staff.
- 133. Seminar.** 2 Q. Winter, spring. 2-3 cr. Open to Spanish major students with senior standing. Topics offered for study: outstanding authors and literary movements of Spain and Spanish-America. All majors must take at least one quarter of course 133; not more than 6 credits may be applied toward graduation. Mr. Thomas.

## DIVISION OF PHYSICAL SCIENCES

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PROFESSOR A. S. MERRILL, CHAIRMAN.

The following course is offered as a general survey of the field of Physical Sciences.

**17. Introduction to Physical Sciences.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Students who have 8 or more college credits in chemistry or physics may not receive credit in this course. Consideration is given to astronomical phenomena and concepts; chemical changes and their uses; geological features and processes; the various theories of matter and energy as well as the laws and principles that describe their behavior and application. A textbook fee of seventy-five cents is charged each quarter. Given conjointly by the Departments of Chemistry, Mathematics, and Physics. Mr. Jesse. Mr. Little. Mr. Merrill. Mr. Shallenberger.

## Chemistry

PROFESSORS WILLIAM G. BATEMAN, JOSEPH W. HOWARD, RICHARD H. JESSE (CHAIRMAN).

**Major Requirements:** 50 credits, including Chemistry 13, 15 cr.; 15, 5 cr.; 17 and at least 2 cr. of 111, 7 to 10 cr.; 101, 10 cr.; 106, 10 cr.; 113, 3 cr. At the time of his graduation, a major student in Chemistry should have acquired a reading knowledge of German or French, and a working knowledge of English composition, college physics, algebra, trigonometry, analytic geometry, calculus, and elementary mineralogy.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Chemistry should consult the course requirements listed on page 90.

### For Undergraduates

**11. General Chemistry.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Open to freshmen who present no entrance units in chemistry. Chemistry Staff.

**13. Inorganic Chemistry and Qualitative Analysis.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Prerequisite, one year of high school chemistry. The fundamental laws of chemistry; properties and relations of the non-metallic and metallic elements; theory and methods of inorganic qualitative analysis. Students who have completed Chemistry 11 may not receive credit for 13ab but are eligible for credit in 13c. Mr. Bateman. Mr. Howard.

**15. Qualitative Analysis.** 1 Q. Winter. 5 cr. Prerequisite, Chemistry 13c. A continuation of course 13c. Mr. Bateman.

**17. Quantitative Analysis.** 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c. Introduction to quantitative gravimetric and volumetric methods. Mr. Jesse.

**19. Organic Chemistry.** 1 Q. Winter. 5 cr. Summer. 4 cr. Prerequisite, Chemistry 11 or 13. Briefer survey of the field of organic chemistry. Intended primarily for students of home economics. Mr. Howard.

### For Undergraduates and Graduates

**101. The Carbon Compounds.** 2 Q. Autumn, winter. Continuous. 10 cr. Summer, 101b. 4 cr. Prerequisite, Chemistry 11 or 13. Students who have taken Chemistry 19 will not receive full credit for this course. A detailed, systematic study of organic chemistry. Intended for chemistry, pharmacy, and pre-medical students. Mr. Howard.

**102. Organic Qualitative Analysis.** 1 Q. Spring. Summer. 2 cr. Prerequisite, Chemistry 101. Systematic methods of identification of pure or-

ganic compounds and mixtures; general class reactions of organic chemistry. Mr. Howard.

**103. Physiological Chemistry.** 1 Q. Spring. 5 or 6 cr. Prerequisite, Chemistry 19 or 101. Chemistry of the human body; blood, bile, urine, feces, milk, etc. Mr. Bateman.

**106. Physical Chemistry.** 2 Q. Autumn, winter. Continuous. 10 cr. Prerequisite, Chemistry 17, 101, Physics 20abc, and Mathematics 23. The prerequisite in organic chemistry may be waived at the discretion of the instructor for students majoring in other departments who present two quarters of calculus and additional courses in physics. The more important methods, results, and problems of theoretical chemistry. Mr. Jesse.

**109. Inorganic Industrial Chemistry.** 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. The chemistry of industrial and engineering materials and the discussion of technical chemical processes. Given in 1940-41, and in alternate years. Mr. Howard.

**110. Organic Industrial Chemistry.** 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. Given in 1941-42, and in alternate years. Mr. Howard.

**111. Technical Analysis.** 1 Q. Autumn. Winter. Spring. Summer. 2-4 cr. Course may be taken two quarters for a total of not more than 4 credits. Prerequisite, Chemistry 17. Analysis of materials of commercial importance. The work is varied according to the needs of the individual. Mr. Howard. Mr. Jesse.

**113abc. Journal Club.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Chemistry 17, 101, and a reading knowledge of German or French. Students may enter any quarter. Presentation and discussion of current journal literature by upper classmen and the departmental staff. This course may be repeated for credit. The Chemistry Staff.

### For Graduates

**200. Advanced Courses and Research.** The Department is prepared to arrange for properly qualified students courses in: inorganic, analytical, organic, physical, industrial chemistry, or in bio-chemistry. Chemistry Staff.

## Geology

PROFESSORS JESSE P. ROWE (CHAIRMAN), CHARLES DEISS.

**Major Requirements:** 50 or more credits, including Geology 11ab, 22, 23, 24, 26, 35, and 121. Major students must have a reading knowledge of German or French. Forestry 41abc, Mathematics 12, Chemistry 13, and Physics 20ac should be completed. Students emphasizing economic geology and petrology should take in addition: Chemistry 15, 17, 19, 106, and Mathematics 13, 21, 22, and 23; those emphasizing stratigraphy and paleontology should take invertebrate zoology, comparative anatomy of vertebrates, and one quarter of botany and elementary anthropology.

Senior examinations will not be given except to candidates for honors.

### For Undergraduates

**11ab. General Geology.** 2 Q. Autumn, winter. 5 cr. each quarter. Summer, S11a. 3 cr. The first quarter is given to a study of the origin and development of the surface features of the earth, and its broad structural features. The second quarter is directed to the origin and evolution of the earth and its organisms. Mr. Deiss. Mr. Rowe.

**14. Forestry Geology.** 1 Q. Spring. 3 cr. Open to students who have not completed Geology 11a. A general discussion of physical geology with reference to forestry problems. Not given in 1940-41. Mr. Rowe.

**16. Geography and Natural Resources of Montana.** 1 Q. Autumn. Winter. Spring. Summer. 3 cr. This course does not apply toward the restricted elective requirement in science unless credit is offered in Geology 11ab. Mr. Rowe.

**17. Gem Stones.** 1 Q. Winter. Summer. 2 cr. Open to all students. The properties, occurrence, history, and determination of precious, semi-

precious, and ornamental stones; methods of determining imitation and synthetic stones from real ones. This is not a laboratory course. Mr. Rowe.

**22. Historical Geology.** 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, Geology 11a. The first quarter takes the study to the close of the Paleozoic era, and the second quarter continues it to the present time. Given in 1941-42, and in alternate years. Mr. Deiss.

**23. Stratigraphy of North America.** 1 Q. Spring. 4 cr. Prerequisite, Geology 22 or 111. The stratigraphic record of North America in terms of paleogeography. Given in 1941-42, and in alternate years. Mr. Deiss.

**24. Mineralogy.** 2 Q. Autumn, winter. Continuous for geology majors. 10 cr. Chemistry 13 is prerequisite or may be taken concurrently. The elements of crystallography and the classification and determination by means of physical properties, blowpipe analysis, and other simple chemical tests, of about 175 common minerals of geologic and economic importance. Mr. Rowe.

**26. Petrology.** 1 Q. Spring. 4-cr. Prerequisite, Geology 24. Study of the common rocks by means of their physical characters and mineral composition, their identification in the field, classification, origin, and structural features. Mr. Rowe.

**35. Field Geology.** 2 Q. Autumn, 1 cr.; spring, 2 cr. Prerequisite, Geology 11b. A course designed primarily to illustrate geologic features and principles by a study of actual cases in the field. Mr. Deiss.

### For Undergraduates and Graduates

**101. Economic Geology.** 1 Q. Autumn. 5 cr. Prerequisite, Geology 11b and 24. A study of the non-metallic mineral deposits of North America. Mr. Rowe.

**102. Petroleum Geology.** 1 Q. Winter. 3 cr. Prerequisite, Geology 11b and 26. Primarily the application of geologic principles to the discovery of petroleum, with a study of the features of the chief oil and gas fields of the United States. Mr. Rowe.

**103. Mineral Deposits.** 2 Q. Winter, spring. Continuous. 10 cr. Prerequisite, Geology 26 and 101. A course in the more theoretical aspects of the geology of metallic mineral deposits. Mr. Rowe.

**105. Mining, Mineral, and Geological Law.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and consent of instructor. Given in 1940-41, and in alternate years. Mr. Rowe.

**111. Invertebrate Paleontology.** 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, Geology 11b; Zoology 11 recommended. An introduction to the understanding of fossil organisms with equal emphasis placed on anatomy, evolution, and faunas. Given in 1940-41, and in alternate years. Mr. Deiss.

**121. Structural Geology.** 1 Q. Spring. 4 cr. Prerequisite, Geology 11a, 22, 26, high school physics, and Mathematics 12. A detailed study of the structural features of the earth's crust, presented largely by means of lectures and problems. Given in 1940-41, and in alternate years. Mr. Deiss.

**131ab. Optical Mineralogy and Petrography.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Geology 26. (a) Optional mineralogy; the identification of rock-making minerals. (b) The microscopic study of the principal rock types and a discussion of their origin and classification. Not given in 1940-41. Mr. Rowe.

**135. Geologic Surveying.** 1 Q. Spring. 3-5 cr. Prerequisite, Geology 22, 26, and 35. Methods used in making a detailed study of field problems and preparing a formal report upon the investigation. Mr. Deiss. Mr. Rowe.

**137. Advanced Geologic Problems.** 1 Q. Any quarter. 2-5 cr. Prerequisite, Geology 11ab, junior standing, and consent of instructor. Mr. Deiss. Mr. Rowe.

### For Graduates

**201. Research.** Any quarter. Credits variable. The department is prepared to arrange for properly qualified students to do independent investigation in advanced and research courses in paleontology, stratigraphy, structural geology, mineralogy, petrography, and economic geology. Mr. Deiss. Mr. Rowe.

## Department of Home Economics

PROFESSORS HELEN GLEASON (CHAIRMAN), ANNE C. PLATT, MONICA BURKE SWEARINGEN (Director of Residence Halls); ASSISTANT PROFESSOR AGNES M. BRADY. ALVA SMITH FATZER, INSTRUCTOR.

**Major Requirements:** 55 or more credits in Home Economics; these credits should include the courses listed in one of the following groups in addition to Chemistry 11 or 13, 19, and 103.

1. Home-making: 17abc, 18, 28, 119, 120, 122, 125, 127, 128, 130, 131, 138.
2. Teaching: 17abc, 18, 28, 119, 120, 122, 125, 127, 128, 129, 130, 131, 138. In addition a major student should take Fine Arts 31abc, and Education 18, 19, 22, 26, 63, 83. These courses prepare teachers of Vocational Home Economics in reimbursed schools.
3. Institutional Management: 17abc, 119, 122, 123, 125, 133, 135, 138, 139. In addition select one or more from the following: 28, 127, 128, 129, 130, 131, 191. To qualify for a dietetic internship in a hospital the following are also required: Bacteriology 19, Zoology 24, Business Administration 11, Economics and Sociology 16 and 5 credits in Education.

For information regarding opportunities in other business and professional fields open to Home Economics graduates, students should consult the chairman of the department.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Home Economics should consult the course requirements listed on page 91.

### For Undergraduates

**17abc. Introduction to Home Economics.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Education for personal and family life today. Fundamental problems of management, housing, health, clothing, food, child guidance, and relationships studied. Miss Gleason. Miss Platt.

**18. Clothing Design.** 1 Q. Winter. 4 cr. The principles of design, and their application to clothing. Miss Gleason.

**24. Elementary Foods and Nutrition.** 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13ab. Open only to student nurses. Miss Platt.

**28. Child Development.** 3 Q. Autumn, winter, spring. 3-5 cr. each quarter. Summer. 2-4 cr. Prerequisite, Psychology 11 and junior standing. Development of motor, linguistic, and intellectual skills and abilities of young children studied through observation and participation in the Nursery School. May be repeated to a maximum of nine credits. Miss Gleason.

**63. Junior Methods in Home Economics.** 1 Q. Spring. Summer. 4 cr. Prerequisite, Education 18, 19. Open to juniors who are major or minor students in Home Economics. The fundamental principles of organization and methods of presentation of subject matter for home economics classes. This course introduces the student to the problems of student teaching. Miss Brady.

**83. Senior Methods in Home Economics.** 1 Q. Spring. Summer. 3 cr. Prerequisite, course 63 and Education 26. Education 26 may be taken concurrently. Planning units of study, curriculum building, evaluating and relating subject matter. Course considers definite problems met in student teaching. Miss Brady.

### For Undergraduates and Graduates

**117. Textiles.** 1 Q. Spring. 4 or 5 cr. Prerequisite, junior standing. Fibers, their manufacture and use; physical and chemical tests to aid in the selection of clothing and household furnishings. Miss Gleason.

**119. House Planning and Furnishing.** 1 Q. Winter. 5 cr. Summer. 4 cr. Prerequisite, junior standing. The aesthetic, economic, and hygienic problems in house planning and furnishing. Miss Gleason.

**120. Clothing.** 1 Q. Winter. 5 cr. Summer. 3 cr. Prerequisite, Home Economics 17c and 18; 117 recommended. The clothing problem of the family studied from the economic and social point of view. Miss Gleason.

**122. Nutrition.** 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 17b and Chemistry 103. Dietetics given in the light of the chemistry and physiology of digestion. Miss Platt.

**123. Nutrition in Disease.** 1 Q. Spring. 4 cr. Prerequisite, Home Economics 122. The symptoms of disease, prophylactics, and feeding in disease. Miss Platt.

**125. Child Nutrition.** 1 Q. Winter. 3 cr. Prerequisite, Home Economics 122. The science of human nutrition as it applies to children, using the University Nursery School as a laboratory for many of the problems studied. Miss Platt.

**Note:** Courses 127 and 128 must be taken concurrently. The two courses require approximately 24 hours a week for lecture and laboratory time.

**127. Home Living Center.** 1 Q. Autumn. Winter. Spring. 5 cr. Summer. 4 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Residence in the home living center for one term, applying principles gained in other courses to home problems. Mrs. Fatzer.

**128. Home Management.** 1 Q. Autumn. Winter. Spring. Summer. 2 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Management studies and discussion presented on problems in the home living center. Mrs. Fatzer.

**129. Problems in Family Living.** 1 Q. Autumn. Summer. 3 cr. Prerequisite, Psychology 11 and Home Economics 17abc. A critical study of theories and practices in relation to the home and family life. Mrs. Fatzer.

**130. Problems in Home Equipment.** 1 Q. Winter. Summer. 4 cr. Prerequisite, one year of college chemistry. Materials, specifications, selection, care, and use of equipment. Mrs. Fatzer.

**131. Problems of the Consumer.** 1 Q. Spring. 3 cr. Summer. 2-4 cr. Prerequisite, 3 cr. in Economics and Sociology and consent of instructor. A critical analysis of problems confronting the consumer.

**133. Institutional Cookery.** 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 122 or concurrent registration. The application of scientific, economic, and sociological principles to the feeding of large numbers of people. Mrs. Swearingen.

**135. Institutional Management.** 1 Q. Winter. 5 cr. Prerequisite, Home Economics 133. Organization, management, and equipment of special types of institutions, such as dormitories, hospitals, tea rooms, cafeterias, and hotel dining rooms. Mrs. Swearingen.

**138. Foods.** 1 Q. Spring. 4 cr. Prerequisite, Home Economics 17b and Chemistry 19. Special problems are assigned for individual investigation. A study of foods from the scientific experimental point of view, approached by means of experiment and problems dealing with food compositions and preparation. Miss Platt.

**139. Readings in Nutrition.** 1 Q. Autumn. Winter. Spring. 2-4 cr. Course may be repeated during the succeeding quarters to a maximum of 4 cr. Prerequisite, Home Economics 122. Special topic assignments in scientific journals. Miss Platt.

**141. Advanced Clothing Design.** 1 Q. Any quarter. 4 cr. Prerequisite, Home Economics 120. The application of art principles in the carrying out of original designs in materials. Miss Gleason.

**191. Problems in Nutrition.** 1 to 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Home Economics 122. Students may enter any quarter. Experimental work in nutrition with rat colony. Miss Platt.

**198. Problems in Home Economics.** 1 to 3 Q. Autumn, winter, spring. 3-5 cr. Summer. 2-4 cr. Prerequisite senior standing in Home Economics. Students may enter any quarter. Qualified students may select for study special problems of the home and the community in any field of home economics. Home Economics Staff.

## Mathematics

PROFESSORS N. J. LENNES (CHAIRMAN), A. S. MERRILL; ASSOCIATE PROFESSOR EUGENE F. A. CAREY. HAROLD CHATLAND, INSTRUCTOR.

**Major Requirements:** 45 or more credits. However, for students presenting three and a half entrance units in mathematics, a 40 credit minimum, and for students with four entrance units, a 35 credit minimum may be permitted at the discretion of the Department. No student may offer in fulfillment of these minimum requirements more than four of the following courses or their high school equivalents: Mathematics 12, 13, 14, 16, 18, 19, 21, or 25. Courses 10, 11, 18, and A11 may not be counted toward a major in Mathematics. Students majoring in Mathematics must complete Physics 20abc or the equivalent.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Mathematics should consult the course requirements listed on page 91.

**General Information.** Major students are expected to take part in extra-curricular activities of the Department, such as the Mathematics Club and the Mathematics Fraternity.

The Mathematics Library contains complete sets of all the American mathematical journals, and several of the most important foreign journals, such as *Crelle*, *Annalen*, *Liouville*, *Fortschritte*. Important new books are constantly added.

Course 31 and those numbered over 100 (except 101 and 107ab) are offered subject to demand.

### For Undergraduates

**10. Intermediate Algebra.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, 1 entrance unit of algebra. Students entering with  $1\frac{1}{2}$  units of algebra or who have completed Mathematics 18 or 35a may not receive credit in this course. Mathematics Staff.

**11. Solid Geometry.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 10, and one entrance unit in plane geometry. Students who present entrance credit in solid geometry may not receive credit in this course. Not given in 1940-41. Mr. Carey. Mr. Chatland.

**12. Survey of College Mathematics.** 1 Q. Autumn. Winter. Spring. 5 cr. Summer. 4 cr. Prerequisite, 1 entrance unit of algebra and 1 entrance unit of plane geometry and Mathematics 10 or equivalent. A prerequisite for all courses in mathematics except courses 10, 11, 18, 19, 25, and 35abc. Mathematics Staff.

**13. Plane Trigonometry.** 1 Q. Winter. Spring. 5 cr. Summer. 4 cr. Prerequisite, Mathematics 10 or equivalent, and Mathematics 12. Students who present entrance credit in trigonometry may not receive credit in this course. Mathematics Staff.

**14. Advanced Trigonometry.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 12. Spherical trigonometry and certain topics in plane trigonometry. Given in 1940-41, and in alternate years. Mr. Carey. Mr. Chatland.

**16. College Algebra.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 12. Students who present 2 entrance units of high school algebra may not receive credit in this course. Mathematics Staff.

**18. Introductory Business Mathematics.** 1 Q. Autumn. 5 cr. Prerequisite, 1 entrance unit of algebra. Review of algebraic processes, rapid computation, progressions, etc. Students who present  $1\frac{1}{2}$  entrance units of algebra or who have completed Mathematics 10 or 35a may not receive credit in this course. Mathematics Staff.

**19. Mathematics of Investments, Elementary Course.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 18 or  $1\frac{1}{2}$  entrance units of algebra. Mathematics 19 may not be taken for credit by those who have had 25 or more credits in mathematics. Mathematics Staff.

**20. Mathematics of Investments, Advanced Course.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 19 or 25 credits in the Department of Mathematics. Given in 1940-41, and in alternate years. Mr. Merrill.

**21. Plane Analytic Geometry.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 12. Mr. Lennes.

**22. Differential Calculus.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 21, and, with certain exceptions, Mathematics 16. Mr. Lennes.

**23. Integral Calculus.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Mr. Lennes.

**25. Statistics.** 1 Q. Spring. 5 cr. Summer. 4 cr. Prerequisite, Mathematics 10 or 18 or equivalent. Mathematics Staff.

**26. Advanced Statistics.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 12 and 25, or 25 credits in mathematics. Given in 1941-42, and in alternate years. Mr. Merrill.

**31. Teaching of Secondary Mathematics.** 1 Q. Summer. 2½ cr. Prerequisite, consent of instructor. Aims, purposes, and possible curricula for high school mathematics. Mr. Merrill.

**35a. Forestry Mathematics (Algebra).** 1 Q. Winter. 4 cr. Prerequisite, 1 entrance unit of algebra. Students who have completed Mathematics 10 or 18 may not receive credit in this course. Mr. Chatland. Mr. Merrill.

**35b. Forestry Mathematics (Trigonometry).** 1 Q. Spring. 4 cr. Prerequisite, Mathematics 35a or equivalent (i.e., 1½ entrance units of algebra or Mathematics 10 or 18), and one entrance unit of plane geometry. Students who offer entrance credit in trigonometry or who have completed Mathematics 13 may not receive credit in this course. Mr. Chatland. Mr. Merrill.

**35c. Forestry Mathematics (Statistics).** 1 Q. Spring. 4 cr. Prerequisite, Mathematics 35a (or 10 or 18). Students who have completed Mathematics 25 may not receive credit in this course. Mr. Chatland. Mr. Merrill.

### For Undergraduates and Graduates

**101. Ordinary Differential Equations.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 23. Mr. Carey. Mr. Lennes.

**104. Theory of Equations.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Mr. Carey. Mr. Chatland. Mr. Merrill.

**107ab. Selected Chapters in Calculus.** 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Mathematics 23. Mr. Carey. Mr. Lennes.

**150. Seminar.** 1 Q. Any quarter. Credit variable. Prerequisite, junior standing, 25 credits in Mathematics, and consent of instructor. This course provides guidance in special work for advanced students. Mathematics Staff.

### For Graduates

**200. Graduate Seminar.** 1 Q. Any quarter. Credit variable. Prerequisite, graduate standing and consent of instructor. This course provides guidance in graduate subjects or research work. Mathematics Staff.

### Astronomy

**A11. Descriptive Astronomy.** 1 Q. Summer. 4 cr. This course does not apply toward the restricted elective requirement in science. Mr. Chatland. Mr. Merrill.

## Physics

PROFESSOR GARVIN D. SHALEMBERGER (CHAIRMAN); ASSOCIATE PROFESSOR EDWARD M. LITTLE.

**Major Requirements:** 40 or more credits in Physics. In preparation for the advanced courses, a student should take Physics 20abc in the sophomore year. Essential courses offered in other departments: Mathematics 13, 16, 21, 22, 23, and Chemistry 13. Students planning to teach should elect Psychology 11, and courses 18, 19, 22, 26, and 7 additional credits in the School of Education.



Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach with minor preparation in Physics should consult the course requirements listed on page 92.

### For Undergraduates

**511abc. General Physics.** 1 Q. Summer. 4 cr. for each of the three courses. Prerequisite, a working knowledge of high school mathematics. (a) Mechanics and heat; (b) magnetism and electricity; (c) sound and light. Students may not receive credit in both Physics 11abc and 20abc. Mr. Shallenberger.

**20abc. General Physics.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, sophomore standing and Mathematics 12 or 13; high school physics is desirable. This course satisfies medical school and technical requirements in general physics. (a) Mechanics and sound; (b) heat, electricity, and magnetism; (c) light and modern physics. Mr. Shallenberger.

**60. Weather.** 1 Q. Winter. 3 cr. Prerequisite, Physics 20abc. Not a laboratory course. Given in 1940-41, and in alternate years. Mr. Little.

### For Undergraduates and Graduates

**114. Electricity.** 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Lectures and laboratory. Given in 1940-41, and in alternate years. Mr. Little.

**122. Light.** 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 22. Lectures and laboratory. Given in 1940-41, and in alternate years. Mr. Little.

**131. Selected Topics.** 1 Q. Offered subject to demand. 3 cr. Prerequisite, 25 credits in physics and Mathematics 23. Lectures and laboratory. Mr. Little.

**141. Sound.** 1 Q. Winter. 3 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1941-42, and in alternate years. Mr. Little.

**146. Heat.** 1 Q. Winter. 3 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1941-42, and in alternate years. Mr. Little.

**152. Modern Physics.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, Physics 20abc and Mathematics 22. Lectures and laboratory. Given in 1941-42, and in alternate years. Mr. Shallenberger.

**162. Properties of Matter.** 1 Q. Spring. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Lectures and laboratory. Given in 1940-41, and in alternate years. Mr. Shallenberger.

**166. Electronics.** 1 Q. Spring. 3 cr. Prerequisite, Physics 114 and Mathematics 23. Lectures and laboratory. Given in 1940-41, and in alternate years. Mr. Little.

**170. Theoretical Physics.** 1 Q. Spring. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Mr. Little.

**180. Physics Seminar.** 1 Q. Spring. 1 cr. A library and discussion course required of Physics majors. Mr. Little.

### For Graduates

**210abc. Advanced Theoretical Physics.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, a major or the equivalent in Physics. Not a laboratory course. Given subject to demand. Mr. Little. Mr. Shallenberger.

**220abc. Advanced Experimental Physics.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Given subject to demand. Mr. Little. Mr. Shallenberger.

## Pre-Medical Course

Montana State University offers courses which prepare students for entrance to any medical school in the United States. The entrance requirements to such schools as adopted by the Council on Medical Education of the American Medical Association are as follows:

**High School.** Students must have completed a four-year course of at least fifteen units in a standard accredited high school or other school of standard secondary grade, or have passed examinations for unconditional entrance to college. The subjects taken in high school should include, if possible, at least two years' work in Latin.

**College.** The minimum requirement is two years of collegiate work extending through thirty-two weeks each and comprising ninety quarter credits. Many of the better medical schools, however, require three years of preparatory work and an increasing number require graduation from college.

### Pre-Medical Curriculum

The following courses will satisfy the requirements of medical schools requiring only two years of preparatory work:

**Chemistry:** Fifteen credits in general chemistry which may include qualitative analysis; ten credits in organic chemistry.

**Zoology:** Fifteen credits in zoology and botany, but not in botany alone.

**Physics:** Fifteen credits in general physics.

**English:** Nine credits in composition.

**French or German:** A reading knowledge of one modern language. This includes at least one year's college work in addition to high school credits.

**Electives:** To make ninety credit hours, electives should be selected from non-science courses in general.

These requirements will be fulfilled in the University by completing Chemistry 13 and 101, Biological Science 13abc and Zoology 11, Physics 20abc, English 11ab and either 30a or 30b, French 13b or German 13b.

In a few cases the above courses somewhat more than satisfy the minimum requirements; but many medical schools require other courses in addition. Students should plan their pre-medical work to fit the demands of the particular school they wish to attend.

While the minimum requirements as outlined comprise college credits for only two years, pre-medical majors should note that the general requirements of Montana State University, which apply to all students and the extra requirements of most medical schools take **at least one more year to complete**. All medical schools of high standing urge students to undertake a more thorough preparation than the minimum course outlined above. If in addition pre-medical majors wish to graduate they may complete a fourth year at Montana State University and receive the Bachelor of Arts degree with a major in Pre-Medical Sciences. The additional courses required for this degree include Bacteriology 117, 118, 119; Chemistry 17, 103; Psychology 11; Modern Language 15 (French or German); Zoology 23.

**Aptitude Test.** In addition to the work outlined above, each candidate for entrance to any medical school in the United States must pass an aptitude test. This will be given at Montana State University during the winter quarter of the regular school year.

## DIVISION OF SOCIAL SCIENCES

PROFESSOR J. EARLL MILLER, CHAIRMAN.

The following course is offered as an introduction to the field of Social Sciences.

**11abc. Introduction to Social Sciences.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Open to freshmen and sophomores only. Students may enter any quarter. The background and development of political, social, and economic institutions that influence modern life. Special emphasis given present day problems. A textbook fee of \$1.00 is charged each quarter. Divisional Staff.

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## Economics and Sociology

PROFESSOR HARRY TURNER-HIGH (CHAIRMAN); ASSISTANT PROFESSORS ROY J. W. ELY, HAROLD TASCHER. ALBERT DAMBRUN, INSTRUCTOR. GERARD F. PRICE, LECTURER.

**Major Requirements:** 50 to 55 credits in Economics and Sociology, including courses 14, 15, 16, and 118. Not more than 12 credits selected from advanced courses in Business Administration may be applied toward the fulfillment of this requirement.

A comprehensive examination over the major field of study is given to all graduating seniors. Honors candidates must prepare a senior thesis based on original research.

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Students who plan to secure a certificate to teach with minor preparation in Economics and Sociology should consult the course requirements listed on page 90.

**Required in all Schedules**—Sophomore year: Courses 14, 15, 16. Junior year: Course 118.

**A. For Students who Expect to do Graduate Work in Anthropology, Sociology, or Economics:**

Junior and Senior Years: A minimum of 20 credits chosen from the advanced courses in the field selected.

**B. For Students Who Expect to Teach Economics and Sociology:**

Junior and Senior Years: (a) At least 23 elective credits selected from the advanced courses; (b) the educational requirements for the University Certificate of Qualification to Teach (see page 89).

**C. For Students Who Expect to Become Government Economists:**

Sophomore Year: History 21bc.

Junior and Senior Years: (a) History and Political Science 17, 18, and 116; (b) approximately 12 credits selected from the following courses: 19, 101, 103, 110, 113; Business Administration 133, 151, 152, 154, 156; Mathematics 25, 26; (c) approximately 10 credits of work in course 190 in the special field selected; Business Administration 11, 12, and 13 recommended.

**D. For Students Who Expect to do Social Work**

Sophomore Year: Course 17 and History 21bc.

Junior and Senior Years: (a) Course 130, 135, 136; History and Political Science 17, 18; Psychology 11, 115, 130; (b) approximately 12 credits selected from the following courses: 104, 110, 113, 120, 122, 125, 126; Home Economics 17b, 28; Psychology 33; (c) a minimum of 10 credits of course 134 must be completed.

**Note:** The Social Work Laboratory is an important part of curriculum D. It provides integrated field work experience in the basic social work processes. Cooperative arrangements have been made with several campus and extra-campus agencies for the supervision of this work.

**The Ryman Economics Foundation.** The Ryman Foundation in Economics and Sociology was established in 1927 by the late J. H. T. Ryman, Esq., of Missoula. The gift included the testator's personal library in these fields, as well as a gift of \$5000 for its amplification. A sum of \$7,500 was also bequeathed, the income of which is devoted to a systematic extension of the Economics and Sociology Library.

The bequest also included the sum of \$10,000, the income of which is to be awarded every fourth even year to a student of that year's graduating class who has shown distinctive ability and promise in the field of Economics. The purpose of the fellowship is to enable such a student to pursue study in some graduate school of recognized standing leading to the degree of Doctor of Philosophy. The award will next be made in 1942.

### For Undergraduates

**14. Principles of Economics.** 2 Q. Autumn, winter. Winter, spring. Continuous 8 cr., except that 14a, 4 cr., may be applied toward the degree of Bachelor of Science in Forestry. Summer, 14a. 4 cr. Prerequisite, sophomore standing. Staff.

**15. Elementary Anthropology.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, sophomore standing. An introduction to the study of man and culture. Mr. Turney-High.

**16. Elementary Sociology.** 1 Q. Winter. Summer. 4 cr. Prerequisite, sophomore standing. A general introduction to the study of social relations. Mr. Tascher. Mr. Turney-High.

**17. Social Problems.** 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. An analysis of social change with special emphasis on problems emanating from change. Mr. Tascher. Mr. Turney-High.

**19. World Resources and Industries.** 1 Q. Spring. 4 cr. Prerequisite, course 14. A functional study of world resources and industries with special emphasis on the economic principles operative therein. Not open to students who completed Economics 14a in 1937-38. Mr. Ely.

### For Undergraduates and Graduates

#### Economics

**101. Money and Banking.** 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing and course 14. Theories of money and the movement and international distribution of gold; principles of monetary regulation, commercial banking institutions. Federal Reserve system, agricultural banks, and other financial institutions. Mr. Ely.

**103. Public Utilities.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing and course 14. An economic analysis of problems of the public utility industries, including railways. Needs for regulation analyzed and problems of regulation treated. This course is not open to students who have completed former course 102. Mr. Dambrun.

**104. Taxation and Public Finance.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 14. The expenditures, revenues, credit, and taxation policies of political bodies. Mr. Dambrun.

**110. Agricultural Economics.** 1 Q. Winter. 3 cr. Prerequisite, junior standing and course 14. The economic problems which confront the citizens of an agricultural community and the means applied or advocated as solutions. Mr. Dambrun.

**112. Development of Economic Theory.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing, course 14, and consent of instructor. A history and analysis of economic theories, emphasizing the Classical, Historical, and Austrian Schools. Mr. Ely.

**113. Labor Economics.** 1 Q. Winter. 3 cr. Prerequisite, junior standing and course 14. Survey of the main forces which give rise to modern labor conditions; the philosophy, methods, and history of organized labor; labor legislation; social insurance. Mr. Ely.

**118. Social Science Methods.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and 10 credits in the department. An introduction to the methods used in the studies included in the Division of Social Sciences. Divisional Staff.

### Sociology

**120. Population.** 1 Q. Winter. 3 cr. Prerequisite, junior standing and course 16. Not given in 1940-41. Mr. Turney-High.

**122. Criminology.** 1 Q. Winter. 5 cr. Prerequisite, junior standing and course 16. A study of the causes, prevention, detection, and correction of crime. Given in 1940-41. Mr. Turney-High.

**125. Development of Social Theory.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and 10 credits in economics and sociology for majors; for others, senior standing. Social theories from earliest times until the present, and the forces which produced them. Mr. Turney-High.

**126. General Sociology.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 16. An advanced course in the methods, concepts, and data of sociology. Not given in 1940-41. Mr. Turney-High.

**130. Principles of Social Case Work.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, senior standing, course 16, and Psychology 11. The principles of modern organized poor relief and the analysis of actual case histories describing family problems. Mr. Tascher.

**133. Community Organization.** 1 Q. Autumn. 4 cr. Prerequisite, senior standing and course 16. Social needs of communities, local programs, problems of coordinating community efforts, and the role of professional workers in communities. Mr. Price.

**134. Field Work: Social Administration.** 1 Q. Any quarter. 2-5 cr. Prerequisite, senior standing and consent of instructor. This course may be repeated to a maximum of 15 credits. Provides integrated experience in the Social Work Laboratory. Mr. Tascher and Agency Supervisors.

**135. Child Welfare.** 1 Q. Winter. Summer. 4 cr. Prerequisite, senior standing and course 16. A study of the social problems involving children. Mr. Tascher.

**136. Public Welfare Administration.** 1 Q. Spring. Summer. 4 cr. Prerequisite, senior standing and course 16. The history, methods, and policies of the social work activities of government. Mr. Tascher.

**137. Administration of Public Assistance.** 1 Q. Winter. 4 cr. Prerequisite, senior standing and course 16. The legal basis of public assistance. Local, state, and federal administration of public assistance with special emphasis on practical problems encountered. Mr. Price.

**139. Child Welfare Case Work.** 1 Q. Spring. 4 cr. Prerequisite, senior standing and course 130. Intensive study of child welfare case materials illustrating the functioning of children's agencies in the community. Mr. Price.

### Anthropology

**140. The Rise of Old World Civilization.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 15. The development of our culture and civilization from the Neolithic age to the dawn of written history. Not given in 1940-41. Mr. Turney-High.

**141. The Archaeology of North America.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 15. The study of origins and background of pre-Columbian North American peoples and cultures. Given in 1940-41. Mr. Turney-High.

**145. Ethnography.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 15. In accordance with student demand, work may be offered in the ethnography of the Americas, of Africa, of Oceania, and of Asia. By variation in the content as indicated, the course may be repeated for credit. Mr. Turney-High.

**180. Archaeological Survey.** 1 Q. Any quarter. 1-4 cr. Prerequisite, course 141 or 145. A field course in Montana Archaeology. Mr. Turney-High.

**190. Advanced Problems.** Any quarter. 2 cr. Prerequisite, senior standing, course 118, and consent of instructor. Staff.

### For Graduates

**234. Advanced Field Work: Social Administration.** 1 to 3 Q. Any quarter. 3 cr. each quarter. Prerequisite, graduate standing and course 130 or equivalent. Course may be repeated to a maximum of 9 credits. Mr. Tascher.

## History and Political Science

PROFESSORS WESLEY P. CLARK, J. EARLL MILLER (CHAIRMAN); ASSOCIATE PROFESSOR EDWARD E. BENNETT. GUY FOX, MICHAEL J. MANSFIELD, INSTRUCTORS.

**Major Requirements:** 50 credits in History and Political Science; 20 of these credits must be taken from courses numbered over 100. Freshmen who expect to take major or minor work in History should register for Social Science 11abc. Major students must elect either History or Political Science and offer the larger portion of their credits from the field selected. All majors should complete course 118 during their junior year. Economics 103 and 104 may be applied toward a major in Political Science.

Senior examinations are required of all students who major in History or Political Science.

Students who plan to secure a certificate to teach with minor preparation in History and Political Science should consult the course requirements listed on page 91.

### History

#### For Undergraduates

**13abc. English History.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. Students may enter any quarter. The political, economic, and social history of England and the British Empire. Mr. Miller.

**15. History of Greece.** 1 Q. Winter. 4 cr. Prerequisite, sophomore standing. The cultural, social, and political development of ancient Greece from prehistoric times to the Roman conquest. Mr. Clark.

**16. History of Rome.** 1 Q. Spring. Summer. 4 cr. Prerequisite, sophomore standing. The institutional, social, and cultural development of Rome to 395 A. D., with emphasis upon the period from the founding of the Republic to the death of Marcus Aurelius. Mr. Clark.

**21abc. United States History.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 21a. 4 cr. Prerequisite, sophomore standing. Students may enter any quarter. (a) 1492-1783. Colonial beginnings and types of governments, with attention to social and economic conditions; causes, course, and results of the Revolution. (b) 1783-1865. The function of the national government; the development of nationality and democracy; the western movement; slavery and the nullification controversy; the Civil War. (c) 1865-1940. Reconstruction; the new west; agricultural and industrial development; influence of business and of organized labor; reform movements; the World War; the golden age; the depression; the New Deal and after. Mr. Bennett.

**22. Montana History and Government.** 1 Q. Summer. 4 cr. Open to all students. Exploration, fur trade, missions, gold mining, social and economic conditions, transportation, development of silver and copper mining, agriculture, territorial and state government, and political questions. Mr. Bennett.

**23ab. Hispanic-American History.** 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, sophomore standing. (a) Spanish and Portuguese explorations; institutional developments in Latin-America to the close of the 18th century. (b) The political and economic development of Hispanic-American nations in the 19th and 20th centuries. Mr. Mansfield.

**28. Early Modern Europe.** 1 Q. Winter. 4 cr. Prerequisite, sophomore standing and Social Science 11a or History 33. European history from 1500 to the outbreak of the French Revolution; the Reformation, the Wars of Religion, the age of Louis XIV, the rise of Russia and Prussia; the backgrounds of the French Revolution. Mr. Bennett.

**29. French Revolution and Napoleonic Era.** 1 Q. Spring. 4 cr. Prerequisite, sophomore standing and Social Science 11a or course 28. Economic, social, political, and religious developments, and the international reaction to the Revolution. Mr. Bennett.

**30ab. Europe in the 19th Century.** 2 Q. Autumn, winter. 3 cr. each quarter. Summer, 30a. 4 cr. Prerequisite, sophomore standing and Social

Science 11ab or History 29. The internal economic, social, political, and religious development of France, Germany, Austria, and Italy. (a) 1815-1870. (b) 1870-1900. Mr. Bennett.

**33. Medieval Europe.** 1 Q. Autumn. 4 cr. Prerequisite, sophomore standing. The political, social, and economic development of Europe from the barbarian invasions to 1500. Mr. Mansfield.

**40. Teaching of History.** 1 Q. Autumn. 3 cr. Prerequisite, 25 credits in history. The problems of history teaching; emphasis upon historical method; objectives in history teaching; the history curriculum; assignments and class room procedure; general and special methods. Not given in 1940-41. Mr. Bennett.

### For Undergraduates and Graduates

**102ab. History of the Northwest.** 2 Q. Autumn, winter. 3 cr. each quarter. Summer, S102. 4 cr. Prerequisite, course 21abc. Students may enter either quarter. The most significant factors in the history of the northwestern states and their relation to the nation. Not given in 1940-41. Mr. Bennett.

**103. The Early 20th Century (1900-1925).** 1 Q. Spring. 3 cr. Prerequisite, junior standing and 15 credits in the department. Internal development of Britain and of the continental powers in the first quarter of the 20th century. Colonial development and international rivalry prior to the Great War. The War and its immediate effects. Mr. Bennett.

**104. Seminar in American History.** 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, senior standing and 25 credits in history, including 8 credits in United States history. Mr. Bennett.

**105. Seminar in European History.** 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, senior standing and 25 credits in history. Mr. Mansfield. Mr. Miller.

**110. The British Empire Since 1783.** 1 Q. Summer. 4 cr. Prerequisite, junior standing and course 13bc. Organization of the Old Empire at the close of the American Revolution; new colonial policy and British expansion in the 19th century; evolution of the self-governing dominions, and their relations with the mother country; the dependent Empire. Mr. Bennett.

**S111. Medieval Civilization.** 1 Q. Summer. 4 cr. Prerequisite, junior standing and 15 credits in history. The social, economic, and institutional development of Europe from the barbarian invasions to the end of the Middle Ages. Not given summer, 1940. Mr. Miller.

**113. Representative Americans.** 1 Q. Autumn. 4 cr. Prerequisite, History 21abc. Studies in American biography. Given in 1940-41. Mr. Bennett.

**114. History of Russia.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 15 credits in European history. The earlier period of Russian history and the modern regime of the Czars, with special emphasis on the Soviet regime. Not given in 1940-41. Mr. Mansfield.

**117abc. History of the Far East.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing and 15 credits in history. The social, political, and economic aspects of the modernization of China, Japan, and the Philippine Islands; the conflicting interests of the Great Powers in the East. Mr. Mansfield.

**118. Social Science Methods.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and 10 credits in the department. An introduction to the methods used in the studies included in the Division of Social Sciences. Divisional Staff.

### For Graduates

**200. Seminar in American History.** 1 Q. Summer. 2-4 cr. Open to graduates who have a major or minor in history or political science, including course 21abc. An intensive study of a special period in American history according to standards of historical criticism. Mr. Bennett.

**201. Seminar in European History.** 1 Q. Summer. 2-4 cr. Prerequisite, 30 credits in history. A study of special problems in European history. Not given summer, 1940.

### Political Science

#### For Undergraduates

**17. American Government and Politics.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, sophomore standing. The organization and functions of federal government and the problems of the present time. Mr. Fox.

**18. State and Local Government.** 1 Q. Winter. 4 cr. Prerequisite, course 17 or 21b. A study of state, county, and municipal governments and their relation to the federal government. The changing functions of the states. State and federal control of local relief. Mr. Fox.

**20. Comparative Governments.** 1 Q. Spring. Summer. 4 cr. Prerequisite, sophomore standing and Social Science 11ab or course 17. A study of representative types of government, constitutional beginnings, organization, methods of legislation and administration. Soviet, Fascist, and other programs. Mr. Fox.

### For Undergraduates and Graduates

**106ab. International Public Law.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, junior standing and 20 credits in the department. The law of nations in relation to peace, war, and neutrality. Not given in 1940-41. Mr. Miller.

**107ab. Diplomatic History of Europe.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, junior standing, and one college course in modern European history. Students may enter either quarter. International relations and world politics from the congress of Vienna to the World War. Not given in 1940-41. Mr. Miller.

**108. Present World Problems.** 1 Q. Spring. 3 cr. Prerequisite, History 103 or 107ab. The failure of the Versailles treaty. The decline of democracy and the rise of dictatorship. Foreign relations of the Great Powers. The present European situation. Given in 1940-41. Mr. Miller.

**109. American Political Problems.** 1 Q. Winter. Summer. 4 cr. Prerequisite, course 21bc or 17 and 18. Present day political problems, such as governmental reorganization, depression cures, relation of government and business, and foreign problems. Mr. Fox.

**112. Seminar in Political Science.** 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 18 credits in political science and senior standing. Mr. Fox.

**115. Theories of the State.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, junior standing and 15 credits in the department or Economics 103. The necessity for and the theories of government regulation; regulation in practice by legislation, by commission, and by judicial decision; the government in business. Mr. Fox.

**116. Government Regulation of Business.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and 15 credits in the department or Economics 103. The necessity for and the theories of government regulation; regulation in practice by legislation, by commission, and by judicial decision; the government in business. Mr. Fox.

**120. American Foreign Relations.** 1 Q. Summer. 4 cr. Prerequisite, junior standing and History 21abc. The policies and practices of the United States in her relations with foreign powers.

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## Pre-Business Administration

Students who plan to enter the School of Business Administration should see the suggested curriculum, the requirements for graduation, and the courses in the School of Business Administration, page 84.

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## Pre-Education

Students who plan to enter the School of Education should complete the required curriculum of the Division of Social Sciences. For further information regarding the School of Education, see page 88.

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## Pre-Legal

Students who plan to enter the School of Law should complete the required curriculum in the Division of Social Sciences. For further information regarding the School of Law, see page 104.



## GRADUATE SCHOOL

### Admission

Candidates for admission to the Graduate School must hold a Bachelor's degree from Montana State University or from another institution of approved standing. In order to become a candidate for a Master's degree, the student must offer evidence of completion of satisfactory undergraduate work in the field he has selected for graduate study. To receive graduate credit the student must register in the Graduate School and his program must receive the approval of the Chairman of the Graduate Committee.

### Courses

Graduate work is offered in the following departments or schools: Bacteriology and Hygiene, Botany, Business Administration, Chemistry, Economics and Sociology, Education, English, Fine Arts, Classical and Modern Languages, Forestry, Geology, History and Political Science, Home Economics, Journalism, Mathematics, Music, Pharmacy, Physical Education, Physics, Psychology and Philosophy, and Zoology.

Undergraduate courses of advanced character are accepted for graduate work. Such courses, however, must be of at least junior character and should have a prerequisite of not less than eight credits in the same field. Normally, courses numbered from 100 to 199 will meet this requirement. In such courses, however, the student must do extra work equal to fifty per cent of the regular assignments in order to receive full graduate credit. Such extra work must be of distinctly advanced character. In case students do not do the extra work required for graduate credit they may, with the approval of the Graduate Committee, count two-thirds of the course credit as graduate credit.

### Requirements for a Master of Arts Degree

Candidates for a Master of Arts degree must present thirty credits of graduate work and a thesis. Candidates must be registered for a full graduate course for three quarters. The residence requirements may be met by carrying a normal graduate course for three summer sessions of nine weeks each and preparing the thesis *in absentia*. In the case of students transferring graduate credits from other institutions, the residence requirements are three quarters or summer sessions and not less than twenty-two credits at Montana State University. Students of superior ability may earn the degree within a year if they give all their time to graduate study. Twenty credits must be in the major subject, and with the approval of the Graduate Committee, ten credits may be offered in a minor field. Candidates for the Master of Arts degree are expected to earn a "B" average (an index of 2.0) on credits offered for the degree.

Before receiving the Master of Arts degree the candidate must present evidence of intensive study and investigation in some field of interest. In connection with this study he must prepare a thesis. The subject of this thesis must receive the approval of the major professor and the chairman of the Graduate Committee. Finally he must pass an examination over the whole field of his special study, and this examination may be taken only after the thesis is accepted. Final acceptance of the thesis is subject to the approval of a special examining committee which also conducts the examination over the special field of study. The examination may be oral or written or both. Before the degree is conferred, two copies of the thesis must be deposited in the library. The thesis must be prepared in the form prescribed by the Graduate Committee.

### **Master of Education Degree**

Candidates for a Master of Education degree must have completed a minimum of three years' satisfactory teaching and offer forty credits of graduate work. No thesis is required. Work for this degree may be done in the minimum required residence of three regular quarters or four summer sessions of nine weeks each; at least twenty-eight of the credits presented must be earned in residence at Montana State University. The School of Education may give such examinations, oral and written, for admission to candidacy and prior to final recommendation for the degree as may be necessary to secure reasonable standards of proficiency. Candidates for this degree may offer twenty-five credits in the minor field if the undergraduate major was Education. In other cases the maximum credit for the minor field is fifteen credits. An index of 2.0 must be earned on credits offered for the Master of Education degree. See also page 89.

The degrees of Master of Education and Master of Arts in Education are mutually exclusive, so that both degrees may not be conferred upon the same individual.

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## **PUBLIC SERVICE DIVISION**

The University is actuated by the idea that, so far as its resources permit, it should perform any public service for which it is more naturally adapted than other existing agencies. For this reason it undertakes various extension activities, such as correspondence study, extension lecturing, etc.

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### **Correspondence Study**

For a bulletin of courses, address Correspondence Study Department, Montana State University.

During the past year the University has offered the following correspondence courses:

#### **Bacteriology and Public Health**

General Hygiene.

#### **Business Administration**

Industrial Geography, Elementary Accounting, Intermediate Accounting, Corporation Accounts, Advanced Accounting, Auditing, Income Tax, Cost Accounting, Credits and Collections, Corporation Finance, Foreign Trade, Marketing, Salesmanship.

#### **Classical Languages**

Elementary Latin, Intermediate Latin, Writing Latin (Elementary), College Freshman Latin, Pliny and Martial, Catullus and Terence, the Annals of Tacitus, Life and Works of Vergil. More advanced work upon request.

#### **Economics and Sociology**

Principles of Economics, World Resources and Industries, Money and Banking, Taxation and Public Finance, Elementary Sociology, Child Welfare, Social Problems, Transportation, Principles of Social Case

Work, Labor Economics, Agricultural Economics, Public Welfare Administration.

### **Education**

School Management, History of Education, Principles of Education, Educational Psychology, The High School, School Supervision, History of American Education, Educational Administration, Fundamentals of School Health, School Finance.

### **English**

English Composition, Advanced Composition, American Literature, (59abc), The Novel (75a and b), Contemporary Literature (55b and c).

### **Geology**

General Geology, Geography and Natural Resources of Montana.

### **History and Political Science**

Introduction to Social Science, English History, American Government and Politics, State and Local Government, United States History, Contemporary United States History, Montana History and Government, Europe in the Nineteenth Century, Comparative Governments, Medieval Europe.

### **Home Economics**

Elementary Dietetics, House Planning and Furnishing, Textiles.

### **Journalism**

Survey of Journalism.

### **Mathematics**

Elementary Algebra, Plane Geometry, Intermediate Algebra, Solid Geometry, Survey of College Mathematics, College Algebra, Plane Trigonometry, Mathematics of Investments (Elementary), Elementary Statistics, Analytic Geometry, Differential Calculus, Integral Calculus, Seminar.

### **Modern Languages**

Elementary French; Intermediate French; Advanced French; General Survey of French Literature; French Culture and Life; French Grammar Review and Composition; The Seventeenth Century French Literature; The Eighteenth Century French Literature; The Nineteenth Century French Literature; Advanced French Composition. Elementary German; Intermediate German; Advanced German; German Grammar, Composition, Conversation. Elementary Spanish; Intermediate Spanish; Advanced Spanish; Spanish Grammar, Composition, Conversation; General Survey of Spanish Literature; Spanish Drama of the Golden Age; Spanish Novel and Drama of the Nineteenth Century; Contemporary Spanish Drama; Spanish-American Literature; Contemporary Spanish Novel.

### **Music**

History of Music, Elementary Harmony, Advanced Harmony, Counterpoint, Class Piano Methods.

### **Psychology and Philosophy**

General Psychology, Social Psychology, Abnormal Psychology, Mental Measurements, Ethics, Child Psychology, Psychology of Business, Psychology of Personality, Applied Psychology, Psychology of Handicapped Children, Logic, Introduction to Philosophy, History of Philosophy.

### Religion

The Religions of Mankind, The Prophetic Heritage. Further work upon request.

### Zoology

Eugenics.

### Correspondence Study Fees

The fees for correspondence courses are payable in advance.

For each quarter credit.....\$2.50

To cover cost of postage on returned assignments, per course.....\$1.00

A charge of \$2.00 will be made for extension of time for the completion of a correspondence study course, except in the case of students required to suspend the correspondence study work while in attendance at some institution. If no work has been done on a course, and all other rules have been complied with, upon payment of \$2.00 the fee will be transferred to another course on request.

In case books are borrowed from the University Library a deposit of \$4.00 should be sent to the Correspondence Study Department. When the student no longer desires books, \$3.00 of the deposit is returned, less postage and fines for delay in returning books. The other \$1.00 is retained as a rental charge.

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### Public Lectures

The services of members of the University staff may be secured for public addresses and lectures by application to the Public Service Division.

Owing to financial limitations Montana State University has no separate staff for public service work, but is compelled to call upon the members of the regular staff for extra-mural services. For this reason it is usually necessary to plan some time in advance for any work which calls staff members away from the institution for any considerable length of time.

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### Placement Bureau

Montana State University endeavors to assist all of its graduates and graduate students in finding positions and in securing advancement. This work is done by the Placement Bureau, the Director of which is Dr. G. D. Shallenberger. Confidential information showing the preparation, character, ability, and success of all persons registered in this Bureau is collected. This information is furnished to prospective employers.

The Placement Bureau particularly assists school authorities in need of teachers, principals, and superintendents; in like manner, it assists teachers, principals, and superintendents in finding positions which they are qualified, by training, ability, and experience, to fill. A registration fee of \$5.00 is charged teachers for this service to cover the cost of gathering material, making up sets of papers, and sending them out to employing school officials. No additional charge is made for renewal of registration in subsequent years. Students who have paid the fee of \$5.00 for the University Certificate of Qualification to Teach since July 13, 1936, are not required to pay the \$5.00 fee for the services of the Placement Bureau.

## SCHOOL OF BUSINESS ADMINISTRATION

PROFESSORS ROBERT C. LINE (DEAN), EMMETT R. SANFORD, J. HOWARD TOELLE; ASSOCIATE PROFESSOR EDWIN W. BRIGGS. ALICE BERLAND, ALBERT DAMBRUN, BRENDA FARRELL WILSON, INSTRUCTORS.

The School of Business Administration offers preparation for secretarial work and for clerical positions and, in its advanced courses, prepares for administrative positions in industry, commerce, and public service. It also has an intensive training course in retailing and wholesaling.

### Requirements for Admission

The course in business requires a solid foundation in non-technical subjects. In addition to the University requirements for admission (pages 15 to 18), a student must have completed two years of approved college work.

For regulations regarding admission of special students see page 17.

### Requirements for Graduation

Candidates for the degree of Bachelor of Arts in Business Administration must meet the following requirements:

- (1) The general University requirements for graduation (see pages 18 to 23), except in foreign languages.
- (2) A minimum of 53 credits in Business Administration. The following courses, described under the Department of Economics, are accepted as Business Administration subjects: Economics 101, 103, 104.
- (3) The following courses must be completed: Economics 14, Psychology 11, Business Administration 11, 12, 13, 41, 133, and 151.
- (4) The following courses should be completed: Mathematics 18, 19, and 25.

In addition to the above requirements, each student should be able to typewrite at a minimum rate of 40 words a minute and should be able to take dictation at a reasonable rate of speed.

The School of Business Administration may refuse to recommend a student for a degree until he has shown a satisfactory knowledge of arithmetic, use of English, and use of certain business machines.

Senior examinations will not be given except to candidates for honors.

### Cooperating Schools

The School of Business Administration cooperates with the School of Law so that it is possible to obtain in six years both the degrees of Bachelor of Arts in Business Administration and Bachelor of Laws. This is a very desirable combination for those expecting to enter the legal profession.

Students who wish to specialize in advertising should in their sophomore year complete Journalism 12abc, and in their junior year Journalism 40 and 51.

The school of Business Administration cooperates with the School of Education in order that those who expect to teach commercial subjects in secondary schools may obtain a University Certificate of Qualification to Teach. In order to qualify for this certificate, students should take Psychology 11 in the sophomore year; Education 18 and 19 in the junior year; and Education 22, 26, 142, 143, and 66 in the senior

year. They are also required to take Business Administration 22c or its equivalent and to meet a typing requirement of 50 words per minute in a 10 minute test with no more than 5 errors.

**Note:** Students who plan to secure a certificate to teach with minor preparation in Business Administration should consult the course requirements listed on page 90.

### C. P. A. Examinations

The laws of the State of Montana provide for the certification of public accountants. The University grants the C. P. A. certificate to legally qualified persons who have successfully passed a written examination in "Theory and Practical Accounting," "Auditing," and "Commercial Law." Graduates of the School of Business Administration who have taken the courses suggested in the accounting group will have the fundamental education required for these examinations. Further intensive study is suggested. One year's residence in Montana is prerequisite for admission to the examination for a Montana certificate.

### Business Research

A Bureau of Business Research, organized in 1940, conducts studies of business problems in Montana and disseminates this information to the business men of the state. This year the Bureau will put out the fourth issue of "Montana Production."

### Suggested Curricula for Majors in Business Administration

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Physical Science 17abc or Biological Science 18abc .....	5	5	5
Humanities 15abc .....	5	5	5
*Mathematics 18, 19, 25 .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	<hr/> 17	<hr/> 17	<hr/> 17
Sophomore Year			
Business Administration 11, 12, and 13 .....	5	5	5
Business Administration 21 .....	0	0	0
Economics 14ab .....	4	4	...
Psychology 11 and 32 .....	5	...	5
English 11ab .....	...	3	3
Elective .....	...	3	3
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<hr/> 16	<hr/> 17	<hr/> 18

### ACCOUNTING

Junior Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Business Administration 41ab .....	...	3	3
Business Administration 132 and 133 .....	2	...	5
Business Administration 113abc .....	4	4	4
Economics 101 .....	...	4	...
Economics 103 and 104 and Business Administration 154 .....	4	3	4
Elective .....	6	3	...
	<hr/> 16	<hr/> 17	<hr/> 16

\*Students who have completed Mathematics 10 or who present 1½ entrance units in algebra may not register for Mathematics 18.

	Senior Year		
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Business Administration 151 and 129.....	3	5	----
Business Administration 115ab and 145 .....	4	4	4
History and Political Science 116.....	----	----	4
Elective .....	8	8	9
	15	17	17

## GENERAL BUSINESS AND COMMERCIAL TEACHING

Junior Year			
*Business Administration 22abc .....	5	5	5
Business Administration 41ab .....	----	3	3
Business Administration 133 and 132.....	5	----	2
Business Administration 142 or 143 .....	----	----	3
Economics 101 and 104 .....	----	4	4
Economics 103 or Business Administration 154..	4	3	----
Elective .....	3	----	----
	17	15	17

Senior Year			
Business Administration 151, 150, and 156 .....	3	3	3
*Business Administration 23ab .....	----	5	5
Business Administration 131, 129, 142 or 143....	2	5	3
Economics 103 or Business Administration 154..	4	3	----
History and Political Science 116 .....	----	----	4
Elective .....	8	----	2
	17	16	17

## For Undergraduates

**51. Industrial Geography.** 1 Q. Summer. 4 cr. Open to all students but may be applied toward graduation by freshmen and sophomores only. The distribution, development, and utilization of raw materials in industry and trade; the influence of economic resources upon business life. Not given summer, 1940. Mr. Sanford.

**11. Elementary Accounting.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, sophomore standing. A student may be exempted from this course upon passing a placement examination admitting him to 12. Fundamental principles of accounting as applied to the single proprietorship. Mr. Sanford.

**12. Intermediate Accounting.** 1 Q. Winter. 5 cr. Summer. 4 cr. Prerequisite, sophomore standing and Business Administration 11 or equivalent by placement examination. Methods of modern accounting practice, with classification of accounts for a partnership. Controlling accounts and columnar books. Mr. Sanford.

**13. Corporation Accounts.** 1 Q. Spring. 5 cr. Summer. 4 cr. Prerequisite, sophomore standing and Business Administration 11 and 12 or placement examination in lieu of 12. Trading, non-trading, and manufacturing corporations, together with joint ventures, consignments, etc. Mr. Sanford.

**21. Typewriting.** 3 Q. Autumn, winter, spring. Summer. No credit. Three times per week. Beginning; Keyboard drills and copy work. Advanced: Letter forms, tabulation, legal forms, speed work. Note special fee page 88. No additional fee if taken with Business Administration 22 or 23ab. Mrs. Wilson.

**\*22. Stenography.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Summer, 22a, c. 4 cr. each. Combined shorthand and transcription practice; principles and dictation, reading, speed work. Note special page 88. Mrs. Wilson.

**\*23ab. Advanced Stenography.** 2 Q. Winter, spring. 5 cr. each quarter. Prerequisite, (a) dictation speed of 80 words a minute in a five min-

\*Required only of students preparing for commercial teaching. Not more than 15 credits earned in Business Administration 22 and 23ab may be applied toward graduation by students not majoring in Business Administration.

ute test; (b) dictation speed of 100 words a minute in a five minute test. Combined transcription and shorthand practice. Note special fee page 88. Miss Berland. Mrs. Wilson.

**25. Office Machines Practice.** 1 Q. Any quarter. 3 cr. Prerequisite, 40 words per minute typing speed. Note special fee page 88. Miss Berland.

**41. Business Law.** 2 Q. Winter, spring. Continuous. 6 cr. Prerequisite, junior standing. (a) Introduction; Contracts; Sales. (b) Agency, Negotiable Instruments; Partnerships; Corporations. Mr. Briggs. Mr. Toelle.

**50. Retail Stores.** 1 Q. Winter. 3 cr. Prerequisite, Economics 14a or Pharmacy 27. Types of retail stores, location, buying, pricing, merchandise display, store selling, types of display advertising, and store costs. Mr. Line.

**52. Salesmanship.** 1 Q. Autumn. 3 cr. Mr. Line.

### For Undergraduates and Graduates

**113abc. Advanced Accounting.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 113a. 4 cr. Prerequisite, Business Administration 12 and 13. (a) Corporation accounting; theory of balance sheets; valuation of assets on the balance sheet; depreciation; profits; reserves; dividends; surplus. (b) Sinking and other funds; income summaries; analysis of balance sheets; liquidations; consolidations; mergers and branch house accounting. (c) Consolidated statements, bankruptcy, reorganizations, and estates. Mr. Sanford.

**S114. Cost Accounting.** 1 Q. Summer. 4 cr. Prerequisite, Business Administration 113abc. Elements of cost; principles and general methods of cost findings; direct and indirect costs; payroll and labor costs; compiling costs and cost data; control of cost records. Mr. Sanford.

**115ab. Auditing.** 2 Q. Autumn, spring. 4 cr. each quarter. Prerequisite, Business Administration 113abc. The general scope and purpose of auditing; the audit program; the analytical study of balance sheets and accounting records, with practical problems. The application of the theory of auditing to practical problems, the preparation of final reports, with full analysis in approved form for submission to clients. Mr. Sanford.

**124. Insurance.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and Economics 14. Methods of meeting risk; fundamental principles of life, fire, marine, and other insurance. Mr. Line.

**129. Principles of Organization and Management.** 1 Q. Winter. 5 cr. Prerequisite, junior standing. Principles of organization and management as applied to the office. Mr. Line.

**131. Real Estate.** 1 Q. Autumn. 2 cr. Prerequisite, Economics 14. Mr. Line.

**132. Credits and Collections.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing and Economics 14. Credit organization; the credit department; the mercantile agencies; sources of credit information; securing and granting credit; collection methods. Mr. Line.

**133. Corporation Finance.** 1 Q. Autumn. Spring. 5 cr. Prerequisite, junior standing and Economics 14. The position of corporate organization in modern business; the financial side of organization and promotion; the financial policy with reference to underwriting; capitalization; earnings; surplus; insolvency; receivership, and reorganization. Problems and methods of social control. The financial organization of particular corporations.

**142. Methods of Teaching Shorthand.** 1 Q. Spring. 3 cr. Summer. 4 cr. Prerequisite, a minor or major in Business Administration, including course 22b or equivalent or teaching experience in shorthand. Objectives, methods, and materials. This duplicates former course 32. Given in 1940-41, and in alternate years. Mrs. Wilson.

**143. Methods of Teaching Typewriting.** 1 Q. Spring. 3 cr. Summer. 4 cr. Prerequisite, a minor or major in Business Administration or teaching experience in typewriting. Objectives, methods, and materials. Given in 1941-42, and in alternate years. Mrs. Wilson.

**145. Income Tax.** 1 Q. Winter. 4 cr. Prerequisite, Business Administration 113abc and 41. The accounting requirements of the law, the regulations and a digest of the law, with practical problems in the preparation of returns for individuals, partnerships, and corporations. Mr. Sanford.

**150. Business Ethics.** 1 Q. Winter. 3 cr. Prerequisite, senior standing. Mr. Line.

**151. Marketing.** 1 Q. Autumn. Spring. 3 cr. Summer. 4 cr. Prerequisite, Economics 14. The prevailing methods of marketing as applied to manufactured products, industrial raw materials, agricultural products, and consumers' goods; functions of middlemen. Mr. Line.



**152. Foreign Trade.** 1 Q. Spring. 3 cr. Prerequisite, Economics 14 and 101, or consent of instructor. Theories, principles, and methods of international trade. Economic resources and products of the principal countries, their chief exports and imports. Mr. Dambrun.

**154. Investments.** 1 Q. Winter. 3 cr. Prerequisite, Business Administration 133. Investment principles and plans; kinds of securities; tests of investment values; outline of financial analysis of industrial, public utility, railroad, financial, real estate, governmental, and foreign securities; the mechanics of investment. Mr. Dambrun.

**156. Business Cycles.** 1 Q. Spring. 3 cr. Prerequisite, Economics 101 or junior standing and Mathematics 25. Business cycles with special reference to their history, causes, duration, and effects; business forecasting is considered. Mr. Line.

**160. Retail Store Management.** 3 Q. Winter, spring. 4 cr. each quarter. Prerequisite, Business Administration 151 or junior standing and consent of instructor. A special training course in the principles and practice of the management of retail stores. **Note** special fees below. Mr. Line.

**191. Business Administration Seminar.** 3 Q. Autumn. 1 to 3 cr. each quarter. Prerequisite, senior standing. An intensive study of specific problems in Business Administration. Mr. Line.

**192. Retail Store Seminar.** 3 Q. Winter, spring. 4 cr. each quarter. Prerequisite, senior standing and consent of instructor. A study of retail problems, particularly those arising from the student's practical store experience. **Note** fees below. Mr. Line.

### Special Fees in the School of Business Administration

Stenography, including Typing and Office Machines	
Practice .....	\$17.50
Typing (without Stenography) .....	5.00
Office Machines Practice (without Stenography) .....	5.00
Retail Store Management .....	15.00
Retail Store Seminar .....	15.00

## SCHOOL OF EDUCATION

PROFESSORS WALTER R. AMES, FREEMAN DAUGHTERS (DEAN), WILLIAM E. MADDOCK; ASSISTANT PROFESSOR AGNES M. BRADY.

The School of Education has the following objectives: (1) To train superintendents, principals, and supervisors for the public schools of Montana; (2) to train teachers for the junior and senior high schools, and teachers of special subjects such as music, art, physical education, and home economics; (3) to provide assistance to the schools of the state in the form of testing programs, extension work, and expert counsel; (4) to encourage investigation and research in the schools of the state; and (5) to unify and coordinate the agencies of the University which contribute to the preparation of those who expect to enter school work.

### Requirements for Admission

In addition to the regular University requirements for admission (pages 15 to 18), a student must complete two years of college work. Pre-education students should follow the curriculum of the Division of Social Sciences except that any two of the four survey courses may be completed; the completion of a foreign language is elective for students majoring in Education (see pages 21 and 43). A minimum of four credits in general psychology is prerequisite to all courses in Education, except 14 and 66, and should be taken in the sophomore year.

Students who expect to secure the University Certificate of Qualification to Teach will be required to file with the Dean of the School of Education at the beginning of their junior year a statement of their

intended major and minor fields of specialization, which should include three fields usually taught in high schools. Each candidate for the Certificate who has not already received credit in Education 26 (Observation and Teaching) will, at the beginning of the junior year, be assigned a definite quarter of the senior year in which he must register for that course.

### Requirements for Graduation

Candidates for the degree of Bachelor of Arts in Education must meet the following requirements:

- (1) The general University requirements for graduation (see pages 18 to 23), except in foreign languages.
- (2) A minimum of 40 credits in Education, including Education 18, 19, 22, 26, 130, 134, 150ab, 152, 154, 156, and 158 or 162 or equivalents.
- (3) Three minors must be completed in subjects usually taught in high schools if the certificate is desired.

Senior examinations will not be given except to candidates for honors.

**Masters' Degrees.** Applicants for admission to the Graduate School must meet the requirements indicated on page 80; candidates for the degree of Master of Arts or Master of Education must comply with the regulations governing graduate work on page 80. For the Master of Arts degree, a candidate must take a general examination on the field of Education early in the period of his candidacy in order to separate satisfactorily his general examination from his special examination on his thesis, which comes shortly before the granting of the degree. A candidate for the Master of Education degree must pass a preliminary examination on his undergraduate courses in Education as a condition to full admission to graduate work within one quarter after beginning his graduate residence. He must, in addition, pass a final examination over the graduate field of Education before being recommended for the degree. No thesis is required. For further information, see pages 80-81.

### The University Certificate of Qualification to Teach

Montana State University issues to its graduates a certificate of qualification to teach which is a license to teach in grades 6 to 12, inclusive, of the public schools of the state. Its jurisdiction may be extended downward to include the lower grades by meeting the conditions prescribed in the state law.

This certificate meets the North Central Association requirement of 22½ quarter credits of preparation in Education. Many states require from 25 to 36 quarter credits in Education as a prerequisite to high school certification. Students preparing to teach in other states should meet the requirements set up by these states. To hold an administrative position in Montana the candidate must have approximately a major in Education.

A candidate for the University Certificate of Qualification to Teach is required:

- (1) To offer either a Bachelor's or Master's degree from Montana State University.
- (2) To submit either major or minor preparation in three fields usually taught in Montana high schools. Subjects such as Education, Law, German, Pharmacy, and Psychology are, therefore, not accepted as meeting this requirement. (The course requirements for minors in the various departments and schools are listed below.) His work must be of such qual-

ity as to secure from the minor department a recommendation as to his ability in the subject. He must also be recommended as to character and scholarship by his major department.

- (3) To offer 23 credits in Education in addition to four credits in General Psychology. The credits in Education shall include Education 18, 19, 22, 26, and two electives. For one of these electives the candidate may offer, if he desires, a methods course to the extent of three credits in one of his fields of preparation. The methods courses from which these credits may be offered are Mathematics 31, Business Administration 142, 143, Home Economics 63, 83, Physical Education 35a, History 40, English 105, Music 123c, and Zoology S17.
- (4) To demonstrate his ability to teach successfully.
- (5) To be a citizen of the United States at the time of receiving the certificate.

In addition to the above requirements the candidate for the certificate must be in good health, free from such defects as would prevent successful teaching; his character must be above doubt; he must show reasonable intelligence in any standards or tests that the University may prescribe; his scholarship must be satisfactory; and he must possess such favorable attitudes, interests, and ideals as to justify certification. The University reserves the right to withhold the certificate for failure to meet adequately any of these standards.

*Candidates for the certificate should confer with the Dean of the School of Education not later than the beginning of the sophomore year, and at the beginning of the junior year must file a statement of their intended major and minor fields with him.*

**Course Requirements for Minors in Departments and Schools.** Following are the courses which should be offered as minor preparation by students who expect to teach in any of the fields indicated:

#### **Botany and Zoology**

Introduction to Biological Sciences 13abc; Botany 11 and 12; Zoology 11 and 24.

#### **Business Administration**

Business Administration 22 or equivalent in combined entrance preparation and college work; 11, 12, 13 (two quarters); 142, 143.

#### **Chemistry**

A minimum of 5 quarters selected from Chemistry 11 or 13; 19 or 101; 15, 17, and 103. Either 19 or 101 must be included in the courses offered.

#### **Classical Languages**

Latin 11abc, 13abc or equivalent of combined entrance preparation and college work. The requirement of students who present entrance units in Latin is dependent upon the results of the placement examination (see page 55), but a minimum of one quarter's work in residence (13c or 15a) must be completed.

#### **Economics and Sociology**

Economics and Sociology 14, 15, 16, 17, and one additional elective course.

### **English, Dramatics and Speech**

Composition, Language, Literature: English 11ab; 30a or 30b or 187; 57abc (one quarter); 59abc (two quarters, preferably b and c); 173c, 174abc (two quarters).

Dramatics and Speech: English 15 and 16 (total of 6 credits); 20; 21; 44; 46ab; 47; 62.

### **Fine Arts**

Fine Arts 23abc and 31abc. Students may offer one quarter of Introduction to the Humanities 15abc to complete the requirement; otherwise they should offer an additional quarter's work in painting or sculpture.

### **French (see Modern Languages)**

### **History and Political Science**

A minimum of 12 credits from each of the following groups of courses: (1) History 17, 18, 21abc, 109; (2) 13abc, 28, 29, 30ab, 33, 103, 108. Spanish majors may substitute History 23ab in the second group. Students selecting the minimum from each group may offer one quarter of Introduction to Social Science 11abc to complete the requirement.

### **Home Economics**

Clothing and Textiles. Home Economics 17abc and 10 credits selected from courses 18, 28, 117, 119.

Foods and Nutrition. Home Economics 17abc, and ten credits selected from courses 28, 122, 125, 138. (Note Chemistry prerequisites.)

Selection may be made from both groups for a combined minor in clothing and foods (25 credits) if the prerequisites of the courses are met.

### **Latin (see Classical Languages)**

### **Library Economy**

Library Economy 14ab, 16a, 20ab, 22a, 28ab, and 31.

### **Mathematics**

For students who present 2 entrance units in Mathematics, 10, 11, 12, 13, 21. For those presenting in addition entrance units in intermediate algebra and solid geometry, Mathematics 12, 13, 21, and one other advanced elective course. Mathematics 21 must be included in the courses offered.

### **Modern Languages**

French or Spanish. Courses 11ab, 13ab, 15, 117. The requirement for students who present entrance units in either language is dependent upon the results of the placement examination (see page 61). In addition to the courses listed, those students who combine high school and college preparation must complete an additional course numbered over 100.

### **Music**

Instrumental. Music 25ab, 26ab, 27ab, 29ab, 31ab, 130ab, and three credits of Music 1, applied work in orchestral or band instruments.

Vocal. Music 1 (Voice), 26ab, 27ab, 31ab, 123a, 155ab, and at least one quarter's work in 10abc (Choral Groups).

### Physical Education

Physical Education 15abc, 32, 35ab, 137; six credits selected from 60, 61ab, 62ab, or 63abc; one additional course to complete 24 to 25 credits.

### Physics

Physics 20abc (note Mathematics prerequisite 12 or 13) and 10 credits selected from courses numbered over 100. Since the Mathematics prerequisites for the advanced courses include Mathematics, 12, 13, 21, and 22, it is recommended that the candidate offer a minor in Mathematics also.

### Spanish (see Modern Languages)

### Zoology (see Botany)

### General Information

Students preparing for the work of superintendent, principal, or supervisor in public schools, for educational research, or for teaching professional subjects, should do major work in Education. Those desiring to become teachers of particular subjects, either in the junior or senior high school, may specialize in the subjects to be taught.

The special methods courses are taught by specialists in the respective fields and are designed for candidates planning to teach special subjects. The courses are numbered S17, 31, 35a, 40, 63, 83, 105, 123c, 142, 143, respectively.

A textbook fee of \$1 is charged for each course taken in the School of Education, except in seminar courses, in which case the fee is \$1.50 per course. The object of this fee is to make it unnecessary for students to purchase texts for particular courses.

### For Undergraduates

**S12. School Law.** 1 Q. Summer. 1½ cr. Prerequisite, sophomore standing or teaching experience. A study of the Montana School Law.

**14. History of Education.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing or teaching experience. Not given summer, 1940.

**S17. Methods of Teaching Science.** See Zoology S17. Not given summer, 1940.

**\*18. Principles of Education.** 1 Q. Autumn. Spring. 3 cr. Summer. 4 cr. Prerequisite, Education 19, unless 18 and 19 are taken concurrently in the junior or senior year. Mr. Ames.

**\*19. Educational Psychology.** 1 Q. Autumn. Spring. Summer. 4 cr. Prerequisite, sophomore standing and Psychology 11. Mr. Ames.

**S20. School Management.** 1 Q. Summer. 2½ cr. Prerequisite, sophomore standing, or teaching experience. A study of the managerial problems of the average teacher. Not given summer, 1940.

**S21. Montana Courses of Study.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing or teaching experience. Montana courses of study, elementary and secondary.

**\*22. The High School.** 1 Q. Autumn. Winter. Summer. 4 cr. Prerequisite, senior standing and 7 credits in Education. The history, organization, management, and problems of the high school. Mr. Daughters.

**\*26. Observation and Teaching.** 1 Q. Autumn. Winter. Spring. 5 cr. Education 22 is prerequisite or must be taken concurrently. Students must, at the beginning of their junior year, consult with the Dean of the School in order to be assigned a definite quarter of the senior year in which this course is to be taken. Not more than 40 students will be permitted to register in the spring quarter. Observation of classroom teaching; conferences; preparation of lesson plans; and teaching under supervision of critic teachers and staff of the School of Education in cooperation with the Missoula County High School and the Missoula city schools. Mr. Ames. Miss Brady. Mr. Daughters.

\*Courses required for University certificate.

31. Teaching of Secondary Mathematics. See Mathematics 31.
- 35a. Systems and Methods. See Physical Education 35a.
- S40. Teaching of History. See History S40. Not given summer, 1940.
- S42. Character Education. 1 Q. Summer. 4 cr. Open to all students. Physical, intellectual, and social adjustments. The functions of the home and the school.
63. Junior Methods in Home Economics. See Home Economics 63.
66. History of American Education. 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing. Mr. Maddock.
83. Senior Methods in Home Economics. See Home Economics 83.

### For Undergraduates and Graduates

105. The Teaching of English. See English 105.
- 123c. School Music. See Music 123c.
130. Fundamentals of School Health. 1 Q. Spring. Summer. 4 cr. Prerequisite, senior standing. The physical and mental health of school children, the hygiene of the school program and instruction, and the problems of the teacher and staff. Mr. Daughters.
134. School Supervision. 1 Q. Autumn. Summer. 4 cr. Prerequisite, Education 19. Instruction—its quality, technique, rating and improvement; discipline, supervised study, and other problems bearing upon the instructional side of school work. Mr. Maddock.
- S135. High School Supervision. 1 Q. Summer. 2½ cr. Prerequisite, teaching experience and Education 22 or equivalent. The problems involved and the means, methods, and plans for improving instruction in the high school.
- S136. Education of Atypical Children. 1 Q. Summer. 4 cr. Prerequisite, junior standing and 10 credits in education. Administrative problems, social implications, special classes, equipment, methods of instruction, vocational advice. Not given summer, 1940.
- S138. Diagnostic and Remedial Instruction. 1 Q. Summer. 4 cr. Prerequisite, junior standing and teaching experience. Materials, techniques, and applications of this important phase of the teacher's work. Not given summer, 1940.
- S139. Progressive Education. 1 Q. Summer. 4 cr. Prerequisite, junior standing and 12 credits in education. The progressive education movement, its philosophy, practices, methods, and typical progressive schools.
140. Educational and Vocational Guidance. 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing or extensive teaching experience. The individual and his aptitudes; direction in education; vocational guidance, its technique, means, and problems. Mr. Ames.
142. Methods of Teaching Shorthand. See Business Administration 142.
143. Methods of Teaching Typewriting. See Business Administration 143.
- 150ab. Educational Administration. 2 Q. Winter, spring. 3 cr. each quarter. Summer. S150. 4 cr. Prerequisite, 7 credits in Education. Students may enter either quarter. (a) City school organization and administration. (b) Federal, state, county, and rural school organization and administration. Mr. Maddock.
152. Educational Measurements. 1 Q. Winter. Summer. 4 cr. Prerequisite, Education 19. Statistical methods. Development and use of scales, and measurement of educational products. Mr. Ames.
154. Seminar in Education. 1 Q. Autumn. Spring. Credit variable. Prerequisite, senior standing and 18 credits in Education, or extensive teaching experience and consent of instructor. Original investigations. Mr. Daughters.
156. School Finance. 1 Q. Spring. Summer. 4 cr. Prerequisite, senior standing or 12 credits in Education and experience as a principal or superintendent. History and sources of school revenue. Funds, relative costs, inequalities, legal limitations, and proper expenditures. Comparative study of finances. Mr. Maddock.
158. Educational Sociology. 1 Q. Winter. 4 cr. Prerequisite, junior standing and 6 credits in Education. The social aspects of education, the relation of the school to society, institutional adjustment and change, and the social objectives of the curriculum. Mr. Daughters.

**S159. Problems of the Junior High School.** 1 Q. Summer. 4 cr. Prerequisite, junior standing, 15 credits in education, and teaching experience. Not given summer, 1940.

**S160. New Developments in the High School Curriculum.** 1 Q. Summer. 4 cr. Prerequisite, junior standing or teaching experience.

**S161. Curriculum Workshop.** 1 Q. Summer. 4 cr. Prerequisite, senior standing and Education 22. A laboratory dealing with curriculum making and the problems of the curriculum.

**162. Problems in Elementary Education.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing and Psychology 11. The elementary school, its history, organization, management, curriculum, types of teaching; its special problems; the kindergarten and other features with which supervisors should be acquainted. Mr. Maddock.

**S163. Contemporary Problems in Education.** 1 Q. Summer. 4 cr. Prerequisite, senior standing and 10 credits in education.

**S164. Youth Problems.** 1 Q. Summer. 4 cr. Prerequisite, junior standing and 10 credits in education.

**170. Seminar in Secondary Education.** 1 Q. Spring. 3-5 cr. Prerequisite, 20 credits in Education, including Education 22 or equivalent. Special investigations, reports, critical discussions, surveys, readings, and term paper or report. Mr. Daughters.

### For Graduates

**266. Seminar in History of American Education.** 1 Q. Winter. 1-5 cr. Prerequisite, 12 credits in Education, including Education 66 or equivalent. Special fields in American educational history; special problems and research. Mr. Maddock.

**270. Problems in Educational Psychology.** 1 Q. Spring. Summer. 4 cr. Prerequisite, graduate standing in Education. Newer psychologies and their effect on educational practice. Shifting theories and the results of experimentation.

**S271. Montana Educational Problems.** 1 Q. Summer. 4 cr. Prerequisite, graduate standing in Education. Montana's district system, feasible reorganizations, teaching conditions, curricular defects. Not given summer, 1940.

**S272. Philosophy of Education.** 1 Q. Summer. 4 cr. Prerequisite, graduate standing in Education. Leading philosophies, concepts of the individual and society, civilization and the place of education.

**280. Seminar in Administrative Problems.** 1 Q. Spring. Summer. Credit variable. Prerequisite, Education 150ab or equivalent. Intensive study of administrative problems; original research. Mr. Maddock.

**285. Educational Research and Thesis Writing.** 1 Q. Winter. 3 cr. Summer. 4 cr. Prerequisite, graduate standing in the School of Education. Research problems: their statement, organization, techniques, tabulation of materials, and summary. A study of many type theses. Mr. Ames. Mr. Daughters.

## SCHOOL OF FORESTRY

PROFESSORS FAY G. CLARK, J. H. RAMSKILL, THOMAS C. SPAULDING (DEAN), CHARLES W. WATERS; ASSOCIATE PROFESSOR MELVIN S. MORRIS; ASSISTANT PROFESSORS CHARLES W. BLOOM, THOMAS G. SWEARINGEN. CLARENCE V. MUHLICK, INSTRUCTOR AND NURSERYMAN.

The School of Forestry provides instruction along the following lines: (1) Undergraduate courses allowing specialization in General Forestry and Forest Engineering, Range Management, or Wild Life Management; (2) a graduate course with opportunities for research in Silviculture, Management, Forest Engineering, Range Management, or allied subjects may be offered to selected applicants.

**Undergraduate Course.** The undergraduate curricula have been arranged to provide a broad training in the profession of Forestry, with particular reference to the various lines of scientific and administrative work in federal and state forest services, and the problems of man-

agement in the lumber industry. That the student may grasp both the practice and theory of forestry, technical instruction should be supplemented by at least two summers' field practice or its equivalent and one summer's training in Forestry methods and technique.

**Graduate Course.** The School of Forestry offers opportunity for graduate and research work, to a limited number of students, leading to the degree of Master of Science in Forestry in the fields of Silviculture, Forest Management, Wood Technology, Forest Products, Lumbering and Logging, and Range Management.

### **Requirements for Admission**

The regular University requirements for admission apply to the School of Forestry (see pages 15 to 18). Since it is desired to limit the undergraduate registration, applications, with transcripts of high school or previous college work, must be filed in advance.

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Placement examinations in Mathematics may be required at the time of entrance.

### **Requirements for Graduation**

**Note:** Students failing to maintain a scholarship index of one (average grade of "C") may not be permitted to continue in the School of Forestry.

Candidates for the degree of Bachelor of Science in Forestry must meet the following requirements:

- (1) The general University requirements for graduation (see pages 18 to 23).
- (2) A minimum of 186 credits of work, not including credits obtained in Military Science, Physical Education, and approved summer field work.
- (3) A Forestry curriculum which is satisfactory to the staff of the School.
- (4) Two summers of regularly approved field work. Should a student fail to offer this field work, he may be allowed to substitute credits earned in residence in the ratio of 3 credits for each summer's work.
- (5) Candidates for the degree of Bachelor of Science in Forestry may be required to complete satisfactorily one summer's instruction in field technique and methods. This field instruction will normally be required the summer immediately following the completion of the sophomore year.
- (6) The increasing complexity of the forest and conservation problems require a broader basic preparation on the part of the student. Students entering the School of Forestry are afforded an opportunity to elect a five-year curriculum that they may be more adequately equipped to meet the future demands of the profession and its fields of specialization. Students are strongly advised to elect the five-year curriculum.

**Note:** Those students specializing in Wild Life Management complete the basic forestry courses in four years. An additional year is required, however, for specialized courses in the Division of Biological Sciences in order to satisfy the requirements for the degree.

Senior examinations will not be given, except to candidates for honors.



Candidates for either the degree of Master of Science in Forestry, or Master of Science with a combined major in Botany and Forestry, must comply with the regulations governing graduate work set forth on page 80.

### Summer Camp

Beginning not later than the summer quarter, 1942, a summer field session of 10 weeks may be offered undergraduates in the School of Forestry. This period will be devoted to the forming of an acquaintance with the elementary principles underlying forest surveying, forest measurements, range management, and allied subjects that the student may be better equipped to undertake and understand the professional and technical courses carried by him in the senior college. Trips may be taken to adjacent forest regions and ranges to accomplish better the intent of the summer session.

### Summer Work

One of the features of the Montana School of Forestry is the opportunity students have had for summer work. Each student is expected to spend at least two summers, of not less than three months each, in gaining field experience in some type of approved forestry work. The United States Forest Service, the United States Indian Service, State Forestry Services, and the lumber industry have all assisted, in the past, in making temporary positions available as summer work for the student.

Heretofore, students have had opportunities to earn while gaining field experience. Positions for summer work cannot, however, be guaranteed, and the securing of such positions, as well as promotions through succeeding vacations and positions after graduation are dependent on the student's character, physical ability, and the availability of positions.

### Field Work

As much of the technical instruction as possible is carried on in the field. The school forests with their 21,000 acres of fir, larch, and yellow pine, national and private timber holdings, logging operations, and sawmills offer excellent laboratories in the practice of the various phases of Forestry and Range Management.

*Field trips of from one to several weeks duration are required as a part of the regular curricular work. Upperclass and graduate students must be prepared to bear the expenses of such trips. These do not normally exceed \$80 per academic year.*

### General Information

The School of Forestry possesses a marked advantage in location and equipment. Every forest type of the inland Northwest is found within a few miles of the campus. Two transcontinental and three branch railroads, as well as interurban bus lines, place the School within easy reach of extensive logging, lumbering, and lumber manufacturing operations. Mills, with a normal annual cut of 120,000,000 feet B. M., are located within thirty minutes of the campus. These mills and plants are available for the use of the School for laboratory purposes.

The School of Forestry maintains its own forest nursery with a potential capacity of one million trees a year. In addition, it has, in cooperation with the Montana Forest and Conservation Experiment Station, school forests of some 21,000 acres of timber and range land, embracing some of the choicest sites and forest conditions in the Northern Rocky Mountain forest area. These school forests are all easily accessible to the campus.

The Montana Forest and Conservation Experiment Station was created by the State Legislature in 1937. It is operated as an integral part of the School of Forestry and students use the Station and its Forest as a part of their instructional plant. The Experiment Station has recently acquired a forest area of the highest value, not only from the standpoint of its silvicultural and forest stand characteristics, but also as a forest pasture for both domestic livestock and wildlife.

The headquarters of the Northern Region of the United States Forest Service, the Northern Rocky Mountain Forest and Range Experiment Station, the Lolo National Forest, and the State Forester are located in Missoula. The boundaries of the Lolo National Forest and the Blackfoot Forest Protective Association surround the School. These include more than 3,000,000 acres of government and privately owned timber lands under forest management. Within 100 miles of the campus are ten national forests, two other government timber reserves, several state forests, a national park, and two forest protective associations.

The Forestry Club has established a loan fund for the benefit of upperclass students of forestry. The fund now contains about \$5000, available to juniors and seniors who have been active members of the club for at least one year.

### Required Curricula for Majors in Forestry

#### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Chemistry 11abc or 13abc .....	5	5	5
*Mathematics 35ab .....	5	4	4
Biological Science 13ab and Botany 12 .....	5	5	3
Forestry 11 and 42 .....	3	---	2
Physical Education 11abc.....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	<u>15</u>	<u>16</u>	<u>16</u>

#### Sophomore Year

Mathematics 35c .....	---	---	4
English 11ab .....	---	3	3
Botany 11, 22, and 51 .....	5	5	5
Zoology 11 .....	---	5	---
Economics 14a .....	4	---	---
Forestry 41ab .....	4	---	4
Forestry 44ab .....	2	2	---
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<u>17</u>	<u>17</u>	<u>18</u>

Upon satisfactory completion of the subjects listed in the freshman and sophomore years the student must elect one of the three fields of specialization; namely, Forest Management, Range Management, or Wild Life Management. See **Note** under Wild Life Management page 98.

#### Junior Year

(Required in all schedules)

Forestry 23abc .....	4	4	4
Forestry 25ab and 24a .....	4	4	5
Forestry 45 .....	3	---	---
Geology 11a .....	5	---	---
	<u>16</u>	<u>8</u>	<u>9</u>

\*Students who present 1½ entrance units in algebra may not receive college credit for 35a; those who present entrance credit in trigonometry may not receive college credit for 35b.

Forest Management			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Forestry 31 and 32 .....	....	3	4
Forestry 33 and 34 .....	....	4	3
Forestry 46ab .....	....	3	2
	16	18	18
Range Management			
Forestry 39ab .....	....	2	3
Botany 161ab .....	....	5	5
	16	15	17
Wild Life Management			
Forestry 46ab .....	....	3	2
Zoology 23 .....	....	....	5
Elective .....	....	4	....
	16	15	16
Senior Year (Required in all schedules)			
Forestry 24b, 13, and 12 .....	5	4	4
Forestry 26ab .....	....	5	2
Forestry 104 .....	....	....	4
Zoology 118 and Botany 125 .....	3	5	....
Elective .....	....	....	3
	8	14	13

**Note:** Forestry 14, Fire Protection and 38, Wild Life Management are highly advised electives and should be completed by all majors before the spring quarter of the senior year.

Forest Management			
Forestry 36ab .....	4	4	....
Forestry 37 .....	5	....	....
	17	18	13
Range Management			
Forestry 35 .....	4	....	....
Forestry 40abc .....	4	4	2
	16	18	15
Wild Life Management			
Forestry 35 .....	4	....	....
Zoology 108 or 109 .....	....	....	4
Elective .....	4	....	....
	16	14	17

**Note:** As previously indicated, the curriculum in Wild Life Management specialization requires five years in residence or its equivalent.

Fifth Year Wild Life Management			
Zoology 107 and Botany 161ab.....	3	5	5
Zoology 108 or 109 .....	....	....	4
Zoology 125 .....	4	....	....
Zoology 131 .....	2	2	2
Elective .....	5	8	3
	14	15	14

### For Undergraduates

**11. Survey of Forestry.** 1 Q. Autumn. 3 cr. May be repeated in the spring quarter. The field of forestry as a profession; functions and characteristics of forests, their benefits, use, distribution, and importance, as well as the relationship of the forest resources to the conservation of all natural resources. Mr. Spaulding.

**12. Economics of Forestry.** 1 Q. Spring. 4 cr. Prerequisite, Economics 14a or equivalent and junior standing. Principles of economics applied to forestry. Mr. Clark.

**13. Forest Policy.** 1 Q. Winter. 4 cr. Prerequisite, junior standing. The development of the forest law and forest policy of the states, the United States, and other nations; public land law as it affects forest administration. Mr. Spaulding.

**14. Fire Protection.** 1 Q. Winter. 3 cr. The problem of the forest fire, prevention, detection, and suppression. Mr. Bloom.

**23abc. Silviculture.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Students may enter any quarter. Prerequisite, Botany 51. The foundations of silviculture upon an ecological basis. The effects of climatic, adaptive, and biotic factors on the growth and development of trees and stands. The influences of the forest upon the site. Principles underlying the regeneration, care, and protection of forest stands. The silvicultural systems of harvesting and reproducing the final crop and the intermediate treatments such as weeding, thinning, and improvement cuttings. Application of silvicultural methods in the various forest regions of America. Artificial reproduction of the forest, including sowing, planting, and nursery practice. Mr. Waters.

**24ab. Forest Mensuration.** 2 Q. Spring, autumn. 5 cr. each quarter. Prerequisite, Forestry 23ab and 41ab. Elements of forest mensuration. Mr. Clark.

**25ab. Dendrology.** 2 Q. Autumn, winter. 4 cr. each quarter. Students may enter either quarter. Prerequisite, Botany 22 or consent of instructor. The microstructural and taxonomic relationships of the principal forest trees of the United States and Canada, with some consideration of important foreign species. Mr. Ramskill.

**26. Forest Management.** 2 Q. Winter, 5 cr.; spring, 2 cr. Prerequisite, Forestry 24 and Forestry 23abc. Forest regulation, finance, and working plans. Mr. Clark.

**27. Forest Recreation.** 1 Q. Autumn. 3 cr. Prerequisite, junior standing. Economic and social aspects of the recreational use of forest lands. Field trips may be required. Mr. Clark.

**31. Wood Technology.** 1 Q. Winter. 3 cr. Prerequisite, Botany 22, or consent of instructor. The physical, chemical, and mechanical properties of wood. Mr. Ramskill.

**32. Forest Products.** 1 Q. Spring. 4 cr. Prerequisite, Forestry 31 or consent of instructor. Character, extent, and value of the products derived from the forests of the United States and Canada, with some reference to important forest products produced elsewhere. Mr. Ramskill.

**33. Logging.** 1 Q. Winter. 4 cr. Prerequisite, sophomore standing. Methods of logging and transportation systems used in the United States, with special reference to conditions, equipment, and practices involved in logging; comparative European methods. Field trips. Mr. Bloom.

**34. Lumbering.** 1 Q. Spring. 3 cr. Prerequisite, junior standing. The milling, seasoning, and grading of lumber. Mr. Clark.

**35. Forest Utilization.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing. A condensation of logging, lumbering, and forest products into one course for Range Management and Wild Life Management students only. Not open to students in Forest Management. Forestry Staff.

**36ab. Forest Engineering.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Forestry 24a and 33. Route surveying; timber appraisal, output studies, planning logging operation; application of engineering principles to logging operations. Field trips. Mr. Bloom.

**37. Timber Mechanics.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 35b, or equivalent, and Forestry 31. Factors governing the strength and utility of wood as a structural material; determination of stresses in wooden structures. Mr. Ramskill.

**38. Wild Life Management.** 1 Q. Autumn. 3 cr. Prerequisite, junior standing. The management of wild life as a forest resource. Mr. Morris.

**39ab. Range Management.** 2 Q. Winter, 2 cr.; spring, 3 cr. Prerequisites, Botany 51, and 161a for 39b. Suitability of various breeds of livestock to forest range use; factors in forest range livestock production. Forest range evaluation, range surveys, and appraisals. Mr. Morris. Mr. Spaulding.

**40abc. Range Management.** 3 Q. Autumn, 4 cr.; winter, 4 cr.; spring, 2 cr. Prerequisite, Forestry 39ab. Range types, distribution, forage value; forage production and utilization; range regulation, improvement. Correlation with other forest soil uses. Management plans. Mr. Morris. Mr. Spaulding.

**41ab. Surveying.** 2 Q. Autumn, spring. 4 cr. each quarter. Prerequisite, Mathematics 35b. Use, care, and adjustment of instruments; tape,

compass, and traverse board surveys; land measurements, computation of areas by coordinates and double meridian distance; transit and stadia surveys; differential, profile, and reciprocal leveling; primary and secondary horizontal and vertical control in mapping large areas; plane table, Abney, and trailer tape surveys for topographic and type maps; U. S. land survey methods. Astronomical observations. Mr. Bloom. Mr. Swearingen.

42. **Elementary Mapping.** 1 Q. Any quarter. 2 cr. Elementary lettering. Mr. Bloom. Mr. Ramskill. Mr. Swearingen.

44ab. **Advanced Mapping.** 2 Q. Autumn, winter. Winter, spring. 2 cr. each quarter. Prerequisite, Forestry 42 and 41a (may be taken concurrently). Advanced lettering; map compilation; tracings. Mr. Bloom. Mr. Ramskill. Mr. Swearingen.

45. **Soil Technology.** 1 Q. Autumn. 3 cr. Prerequisite, Chemistry 11 or equivalent. Soil development, physical and chemical properties. Soil classification and surveys. Management of forest soils. Soil erosion control. Mr. Morris.

46ab. **Survey of Range Management.** 2 Q. Winter, 3 cr.; spring, 2 cr. Prerequisite, Botany 51. Methods of handling stock under range conditions, range evaluation; range improvement. Required of all majors in General Forestry and Forest Engineering. Not open to students specializing in Range Management. Mr. Morris. Mr. Spaulding.

### For Undergraduates and Graduates

101. **Forestry Problems.** 3 Q. Any quarter. 2-5 cr. each quarter. Prerequisite, the completion of basic undergraduate work or its equivalent and consent of instructor. Advanced classroom and laboratory work in the undergraduate and graduate fields of Forest Economics, Forest Policy and Law, Silviculture, Mensuration, Dendrology, Regulation and Finance, Wood Technology, Products, Forest Engineering, Range Management, Soil Technology, and Forest Surveying. Forestry Staff.

102. **Research Technique.** 1 Q. Autumn. Winter. 5 cr. Prerequisite, junior standing and Mathematics 35c or equivalent; Mathematics 26 recommended. Analysis of variance and factorial design of experiments. Students must design and solve at least one experimental problem. Mr. Clark. Mr. Morris. Mr. Waters.

103. **Pro-Seminar.** 1 to 3 Q. Any quarter. 2 cr. each quarter. Prerequisite, senior standing. The newer developments in the various fields of forestry and forest soil use. A review of current literature. Mr. Spaulding and Forestry Staff.

104. **Field Seminar.** 1 Q. Spring. 4 cr. Required of all seniors in Forestry (end of 4th year for students in Wild Life Management). An extended field trip through the range types of the Great Basin, the forest types of the Rocky, Cascade, Sierra, and Coast mountain ranges. Inspection of plants and processes involved in forest utilization. Study and reports on Range Management and Taxonomy, Silviculture and Dendrology, Forest Management, and Utilization. Forestry Staff.

### For Graduates

201. **Problems in Forest Production and Utilization.** 1 to 3 Q. Any quarter. 3-5 cr. each quarter. Prerequisite, undergraduate work of sufficient competence to permit graduate study in the field selected. Forestry Staff.

202. **Problems in Range Management.** 1 to 3 Q. Any quarter. 3-5 cr. each quarter. Prerequisite, undergraduate work acceptable to the staff. Forestry Staff.

## SCHOOL OF JOURNALISM

PROFESSORS ROBERT L. HOUSMAN (EXECUTIVE HEAD), ARTHUR L. STONE (DEAN); ASSISTANT PROFESSOR ANDREW COGSWELL, EDWARD B. DUGAN, INSTRUCTOR; CHARLES W. HARDY, INSTRUCTOR AND PRESS FOREMAN.

The School of Journalism gives practical training in the work of newspaper making. Professional training is combined with academic work in the College of Arts and Sciences so that graduates of the School may obtain a broad and comprehensive preparation.

For special laboratory-incidental fee see page 28.

### Requirements for Admission

The regular University requirements for admission apply to the School of Journalism (pages 15 to 18).

### Requirements for Graduation

Candidates for the degree of Bachelor of Arts in Journalism must meet the following requirements:

- (1) The general University requirements for graduation, (pages 18 to 23), except in foreign languages.
- (2) A minimum of 45 credits in Journalism not including courses 10abc or 11abc.
- (3) The curriculum for majors, pages 101-102.
- (4) A comprehensive examination over the major field of study. An additional examination will be required of candidates for honors.

Candidates for the degree of Master of Arts must comply with the regulations governing graduate work set forth on page 80.

### General Information

The School's course is four years; the first year's work carries no credit toward the journalism major, but is planned to provide a foundation for the courses of the following three years. These years are arranged to present the features of newspaper work under conditions which parallel those existing in a newspaper office.

The Montana Kaimin, giving news of Montana, its campus, and items of national collegiate interest, is issued throughout the University year. On this newspaper the students supplement class instruction by work in the gathering, handling, and presentation of news, as well as in advertising, business management, and editorial interpretation and comment.

The School receives the leading newspapers, professional publications, and public relations materials from organizations the country over, in addition to copies of "flimsy" donated by the Associated Press, the United Press, and the International News Service.

The relationship between the School of Journalism and the Montana State Press Association is close and pleasant. The school furnishes to the rural newspapers of the state a news service from the University. The State Press Association has appointed an advisory board for the School of Journalism.

### Curriculum for Majors in Journalism

	Freshman Year		
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Journalism 10abc .....	2	2	2
Journalism 11abc .....	3	3	3
Social Science 11abc .....	5	5	5
Physical Science 17abc .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	<hr/> 17	<hr/> 17	<hr/> 17

Sophomore Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Journalism 21abc .....	2	2	2
Journalism 22abc .....	2	2	2
Humanities 15abc .....	5	5	5
English 11ab .....	3	3	....
Biological Science 13abc .....	5	5	5
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	19	19	16
Junior Year			
Journalism 24 and 25ab .....	2	2	2
Journalism 31 .....	2	2	2
Journalism 40ab .....	2	2	....
Journalism 38 .....	3	....	12
*Electives .....	7	10	12
	16	16	16
Senior Year			
Journalism 39 and 47 .....	1	1	2
Journalism 49 .....	2	2	2
Journalism 50 .....	....	....	2
*Electives .....	13	13	10
	16	16	16

**Note:** Students who wish to specialize in advertising should complete Journalism 46ab in the junior year and 46c in the senior year; juniors and seniors should also complete Business Administration 50, 52, and 151. Students specializing in rural journalism should complete Journalism 23abc in the junior year and 40 and 46abc in the senior year.

### For Undergraduates

**10abc. Journalistic Sources, Styles, and Forms.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Open only to first year students in School of Journalism. Credits in this course do not count toward a major. Introduction to journalistic sources, development of journalistic style, and practice in journalistic forms. Mr. Stone.

**11abc. Elements of Journalism.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Open only to first-year students in School of Journalism. Credits in this course do not count toward a major. Introduction to the field of journalism: history and elements of journalism; the profession of journalism; the ethics of journalism; backgrounds of state and national journalism. Current events. Mr. Stone.

**12abc. Survey of Journalism.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. Not open to students who have had Journalism 10abc or 11abc. A course for non-majors in Journalism. Newspaper practice and usage; publicity and public relations; news writings; news evaluating; history of the newspaper; current events, combined with practice in reporting. This course is not subject to the laboratory-incidental fee. Mr. Housman.

**S13. The Press as a Social Instrument.** 1 Q. Summer. 2½ cr. Open to all students. The newspaper in its relation to social groups and the problems involved: history and development of the press. Not given summer, 1940. Mr. Housman.

**S14. Introduction to Journalism.** 1 Q. Summer. 4 cr. Open to students who have not completed Journalism S11, 11abc, or 12abc. The fundamentals involved in the theory and practice of journalism, with stress upon methods used in the newspaper field. Exercises in writing and editing newspaper copy for high school periodicals as well as for weekly and daily newspapers. Mr. Housman.

**S18. Propaganda and Censorship in the Modern World.** 1 Q. Summer. 2½ cr. Open to all students. Analysis of propaganda; propaganda and censorship techniques as practiced by social, economic, and political groups. Emphasis on the period between 1914 and the present. Mr. Cogswell.

**21a. Newspaper Organization and Function.** 1 Q. Autumn. 2 cr. Prerequisite, Journalism 10abc and 11abc or consent of instructor. Eco-

\*Electives should be selected in Economics or Sociology, Psychology, Modern or Classical Languages, Literature, and History.

conomic development of the American newspaper; development of the newspaper organization; the detailed development of the newspaper from the one-man shop to the metropolitan organization. Mr. Cogswell. Mr. Housman.

**21b. The Press in Society.** 1 Q. Winter. 2 cr. Prerequisite, Journalism 21a or consent of instructor. The covering of public affairs; the study of news associations and news transmission; evaluation of news and the law of the press. Mr. Cogswell. Mr. Housman.

**21c. Special Writing.** 1 Q. Spring. 2 cr. Prerequisite, Journalism 21b or consent of instructor. Special form of advanced reporting; the review; the special feature. Mr. Cogswell. Mr. Housman.

**22abc. News and Editing.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 10abc and 11abc. (a) Newspaper usages; the handling of news in representative newspapers; forms of composition. (b) Correspondence, state, district, or sectional; re-writing, and the feature. (c) Copyreading, editing, headwriting, and makeup. Mr. Cogswell.

**23abc. Rural Journalism.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 21abc and 22abc. The editorial and business departments of the rural newspaper, covering news, editorial policy, circulation, and advertising methods. Mr. Dugan.

**24. Public Relations.** 1 Q. Autumn. 2 cr. Prerequisite, Journalism 21abc and 22abc or junior standing. The power of public opinion and influences which affect it; relation between the newspaper and public opinion; techniques of influencing opinion. Mr. Cogswell.

**25ab. Editorial Writing.** 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, Journalism 21abc. Preparation and presentation of editorial interpretation and comment. Editorial history; functions of the editorial page. Emphasis upon newspaper ethics and principles. In the second quarter, the class is organized to function as a newspaper editorial writing staff. Mr. Housman.

**26. The High School Newspaper.** 1 Q. Winter. 3 cr. Summer. 2½ cr. Prerequisite, junior standing. A course for students who plan to teach journalism courses in high schools. Problems of high school newspaper publishing. Mr. Cogswell.

**31. Practice Reporting.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, Journalism 21abc and 22abc. Not more than 6 credits may be applied toward graduation. A lecture and laboratory course presenting concrete problems of reporting under actual publishing conditions. Mr. Cogswell. Mr. Dugan.

**36. Contemporary News Events.** 1 Q. Autumn. 2 cr. Summer. 4 cr. Current history of the world; its background; its relationships; its probable influence; discussions of methods of presenting this subject in school work. Replaces Current Events in the summer quarter. Mr. Housman.

**38. Typography.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing in Journalism and consent of instructor. Students may enter any quarter. Mechanical problems of newspaper production. Practical work in the printing laboratory. Mr. Hardy.

**39. Newspaper Library Methods.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Journalism 21abc. Students may enter any quarter. Not more than 3 credits may be applied toward graduation. Practical study of newspaper library methods and practice. Mr. Dugan.

**40. Principles of Advertising.** 2 Q. Autumn, winter. Continuous. 4 cr. Prerequisite, junior standing. Fundamentals of advertising and their relationship to modern business practices. Not open to students who have completed Journalism 45. Mr. Dugan.

**41. Promotional Advertising.** 1 Q. Spring. 2 cr. Prerequisite, senior standing. Modern methods of promotional advertising and publicity for business organizations and public cooperative institutions. Mr. Dugan.

**42. Newspaper Photography.** 1 Q. Autumn. Winter. Spring. 2 cr. Prerequisite, Journalism 21abc and 22abc. The news picture; problems of newspaper photography from the standpoints of copydesk and photographer. Mr. Cogswell.

**43. Advertising Layout and Writing.** 1 Q. Autumn. 2 cr. Prerequisite, Journalism 40 and consent of instructor. Preparation of newspaper and magazine advertising, with emphasis on principles of layout, illustration, color, type, and copy. Mr. Dugan.

**44. Retail Store Advertising.** 1 Q. Winter. 2 cr. Prerequisite, Journalism 43. Advertising as applied to the retail store and its management problems. Mr. Dugan.



**46abc. Advertising Practice.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 40 or concurrent registration. Students may enter any quarter. Applying principles of advertising in the preparation, promotion, and sale of advertisements to clients. Mr. Dugan.

**47. The Newspaper.** 1 Q. Spring. 2 cr. Prerequisite, senior standing. Newspaper history, organization, responsibility; coordination of departments. Mr. Stone.

**48. Newscasting.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Music 45a. Elements of radio news organization, function, problems, and practice. Mr. Housman.

**49. Copyreading Practice.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 31 and 25ab. Lecture and laboratory in copydesk methods under actual publishing conditions. Mr. Cogswell. Mr. Dugan.

**50. Journalism Literature.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, senior standing in Journalism. Students may enter any quarter. Consideration of newspaper problems, ethics, and principles. Bibliographic studies. Mr. Housman.

**51. Advertising Procedure.** 1 Q. Spring. 2 cr. Open to Business Administration majors who have completed Journalism 40. Mr. Dugan.

### For Undergraduates and Graduates

**136. Advanced Journalism Problems.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, Journalism 50 and consent of instructor. Training in methods of journalism investigation. Studies in journalism source materials. Mr. Housman.

### For Graduates

**201. Research in Journalism.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, Journalism 136 and training essential to the special topic undertaken. Research of a distinctly contributive nature for graduate students. Mr. Housman.

## SCHOOL OF LAW

PROFESSORS CHARLES W. LEAPHART (DEAN), DAVID R. MASON, J. HOWARD TOELLE: ASSOCIATE PROFESSORS EDWIN W. BRIGGS, MILTON M. THOMPSON. J. C. GARLINGTON, RUSSELL E. SMITH, INSTRUCTORS. CHARLOTTE RUSSEL, LIBRARIAN.

The School of Law is located in a modernly equipped law school building with adequate class, office, library, and court room facilities. The school has a good working library of 27,000 volumes. To a very great extent the library is the result of the generous gifts and legacies of Mrs. W. W. Dixon, and gifts of Judge John J. McIlhatton, and the Anaconda Copper Mining Company. The school is a member of the Association of American Law Schools and is one of the schools approved by the American Bar Association.

### Requirements for Admission

Applicants for admission must have completed 90 credits of work acceptable for the Bachelor's degree at Montana State University exclusive of credit earned in non-theory courses in military science, domestic arts, physical education and personal hygiene, vocal or instrumental music, and courses of similar character. This work shall be done in residence in a college or university of recognized standing. Applicants must offer for admission as many grade points as credits earned on all work of such character as to be acceptable toward satisfaction of the above requirements for admission.

Although students may be admitted who have successfully completed two years of college work (i.e., normally 102 credits), three years of pre-legal preparation are recommended.

It is recommended that pre-legal students complete the curriculum of the Division of Social Sciences, page 43.

Special students are not admitted to the School of Law.

For University admission requirements, see pages 15 to 18.

### **Requirements for Graduation**

Candidates for the Bachelor of Laws degree are required to complete:

- (1) The requirements for admission listed above.
- (2) A total of 126 credits in Law with an average of at least one grade point for each credit.
- (3) The following courses: Contracts, Property, Torts, Criminal Law and Procedure, Business Organizations or Agency, Practice Court, and Forms of Action and Code Pleading, or Civil Procedure.
- (4) Nine quarters of work in a Law School of recognized standing, the last three of which must be completed in residence. Two summer sessions of approximately 6 weeks each will be counted as one quarter.

Candidates for the Bachelor of Arts degree with Law as a major must meet the regular University and College of Arts and Sciences requirements for graduation (pages 18 to 23 and page 41).

Any student who has conditions or failures in more than nine hours of work standing against him at the end of any year will be dropped from the Law School. Any student who has a condition or a failure in one course of six hours or more at the end of his first year will be dropped from the Law School, unless he obtained at least eighteen grade points in his other courses; and any student having a deficiency of fifteen or more grade points at the end of his first year will be required to repeat, during the next year in which he is in attendance at the Law School, at least one-half of the hours of work in which he received a grade of D or less. Any student having a deficiency of more than twelve grade points at the end of his second year will be dropped from the Law School.

No student will be recommended for a degree in Law who is markedly deficient in English, or who, in the opinion of the majority of the members of the faculty of the School of Law, is unfitted for admission to the practice of law by reason of a lack of honesty and integrity.

The special senior examination provided for on page 22 will not be given except to candidates for honors.

### **General Information**

No student will be allowed credit in any one quarter for over 15 hours of work in the School of Law; except that in addition, within the discretion of the Dean, a student may be allowed to take an examination to remove a condition and be given credit upon satisfactory passage of the same.

The case system of instruction is employed. Special attention is given to practice court work, in which the students are required not only to argue legal questions, but to try cases, prepare appeals, and

go through all the steps incident to the trial of a law suit. A thorough course is given in the use of law books.

Where courses extend over more than one quarter, credit is provisional upon the completion of and final satisfactory examination over the whole course. In continuous courses examinations also will be given at the end of the first quarter. Conditions may be removed only in the regular examinations at the end of a repetition of the course.

The honor system has been in successful operation since the foundation of the School.

The curriculum of the School of Law is designed to afford preparation for the practice of law in any of the United States, but special attention will be given in all courses to the codes and decisions of Montana.

Graduates of the School of Law may, in the discretion of the Supreme Court of Montana, be admitted to practice in the Courts of Montana without further examination.

### Curriculum

	First Year	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Civil Procedure .....	3	3	3	3
Contracts .....	3	3	3	3
Criminal Law and Procedure .....	2	2	2	2
Property .....	3	3	3	3
Torts .....	3	3	3	3
Second and Third Years				
Agency .....	2	2	...	...
Appellate Practice .....	1	1	1	1
Bills and Notes .....	2	2	2	2
Business Organizations .....	3	3	3	3
Conflict of Laws .....	2	2	2	2
Constitutional Law .....	2	4	...	...
Creditors' Rights .....	2	2	2	2
Equity .....	2	2	2	2
Evidence .....	2	2	2	2
Insurance .....	...	...	...	...
*Irrigation Law .....	2	...	...	2
Legal Ethics .....	2	...	...	...
**Mining Law .....	...	...	...	2
Practice Court .....	1	1	1	1
Sales .....	2	2	2	2
Suretyship and Mortgages.....	2	2	2	2
Taxation .....	2	2	2	2
Trusts .....	2	2	2	2
Use of Law Books .....	...	...	...	2
Wills and Administration .....	2	2	...	...

In addition to the above curriculum, second and third year students taking History 106ab (International Law) may apply credit received in it toward a law degree.

### Courses

**Agency.** 2 Q. Autumn, winter. Continuous. 4 cr. Mechem's Cases on Agency (second edition). Mr. Briggs.

**Appellate Practice.** 3 Q. Continuous. 3 cr. Smith's Cases and Materials on Appellate Practice. Mr. Mason.

**Bills and Notes.** 3 Q. Continuous. 6 cr. Smith & Moore's Cases on Bills and Notes (third edition). Mr. Mason.

**Business Organizations.** 3 Q. Continuous. 9 cr. Frey's Cases and Statutes on Business Associations. Mr. Briggs.

**Civil Procedure.** 3 Q. Continuous. 9 cr. Sunderland's Cases and Materials on Judicial Administration. Mr. Mason.

\*Irrigation Law will be given in 1940-41, but not in 1941-42.

\*\*Mining Law will be given in 1941-42, but not in 1940-41.

- Conflict of Laws.** 3 Q. Continuous. 6 cr. Cheatham, Dowling, and McLaughlin's Cases on Conflict of Laws. Mr. Briggs.
- Constitutional Law.** 2 Q. Autumn, 2 cr.; winter, 4 cr. Continuous. 6 cr. Dodd's Cases on Constitutional Law (second edition). Mr. Mason.
- Contracts.** 3 Q. Continuous. 9 cr. Williston's Cases on Contracts (fourth edition). Mr. Leaphart.
- Creditors' Rights.** 3 Q. Continuous. 6 cr. Hanna and McLaughlin's Cases on Creditors' Rights. Mr. Toelle.
- Criminal Law and Procedure.** 3 Q. Continuous. 6 cr. Mikell's Cases on Criminal Law and Procedure (third edition). Mr. Briggs.
- Equity.** 3 Q. Continuous. 6 cr. Cook's Cases on Equity (second edition). Mr. Thompson.
- Evidence.** 3 Q. Continuous. 6 cr. Morgan and Maguire's Cases on Evidence. Mr. Smith.
- Insurance.** 1 Q. Spring. 3 cr. Vance's Cases on Insurance (second edition). Mr. Mason.
- Irrigation Law.** 1 Q. Spring. 2 cr. Bingham's Cases on Water Rights. Given in 1940-41, and in alternate years. Mr. Toelle.
- Legal Ethics.** 1 Q. Autumn. 2 cr. Cheatham's Cases and Materials on the Legal Profession. Mr. Toelle.
- Mining Law.** 1 Q. Spring. 2 cr. Costigan's Cases on Mining Law. Given in 1941-42, and in alternate years. Mr. Toelle.
- Practice Court.** 3 Q. Continuous. 3 cr. Montana Code of Civil Procedure, selected cases, and practical exercise. Mr. Garlington.
- Property.** 3 Q. Continuous. 9 cr. Fraser's Cases on Property (volumes 1 and 2); Kirkwood's Cases on Conveyances. Mr. Thompson.
- Sales.** 3 Q. Continuous. 6 cr. Williston and McCurdy's Cases on Sales. Mr. Thompson.
- Suretyship and Mortgages.** 3 Q. Continuous. 6 cr. Langmaid's Cases on Suretyship; Park's Cases on Mortgages. Mr. Leaphart.
- Taxation.** 3 Q. Continuous. 6 cr. McGill and Maguire's Cases on Taxation. Mr. Thompson.
- Torts.** 3 Q. Continuous. 9 cr. Bohlen's Cases on the Law of Torts (third edition). Mr. Toelle.
- Trusts.** 3 Q. Continuous. 6 cr. Scott's Cases on Trusts (third edition). Mr. Leaphart.
- Use of Law Books.** 1 Q. Spring. 2 cr. Beardsley's Legal Bibliography and Use of Law Books. Mr. Toelle.
- Wills and Administration.** 2 Q. Autumn, winter. Continuous. 4 cr. Mechem and Atkinson Cases on Wills and Administration. Mr. Toelle.

## SCHOOL OF MUSIC

PROFESSORS JOHN B. CROWDER (ACTING DEAN), FLORENCE R. SMITH, A. HERMAN WEISBERG; ASSOCIATE PROFESSORS BERNICE BERRY RAMSKILL, STANLEY M. TEEL; ASSISTANT PROFESSORS CLARENCE W. BELL, JOHN LESTER. RUDOLPH WENDT, INSTRUCTOR.

### Requirements for Admission

1. The regular University requirements for admission apply to the School of Music, pages 15 to 18. Students of all ages and without the usual academic preparation may enroll for applied music subjects, but credit for the work is granted only to students who are eligible to register for regular University courses and to accredited applied music teachers desiring to meet the requirements for life certificates.

2. Students desiring to enter courses leading to the degree of Bachelor of Music in applied music must meet the following entrance requirements in the field of applied music in which they wish to major:

**Voice.** Must be able to sing on pitch and show some talent for musical expression as demonstrated by the performance of standard songs in English and should be able to read a simple song at sight.

**Piano.** Major and minor scales, major and minor arpeggios in moderate tempo, some standard études such as Heller, op. 47; small works of Bach such as Little Preludes and Two-Part Inventions; easy sonatas and standard compositions such as Haydn's Sonata in G Major, Schubert's Impromptu op. 142, No. 2.

**Violin.** Ability to perform études such as Kreutzer Études Nos. 1 to 32 and Tartini G Minor Sonata.

**Organ.** Same as piano.

**Wind Instruments.** Must have mastered elementary technique of his or her instrument.

3. An entrance examination in music aptitude and placement tests in applied music are required.

### Requirements for Graduation

1. Candidates for the degree of Bachelor of Music in music education are required to complete satisfactorily 186 credits as outlined in suggested Curriculum A, and must have a minimum proficiency in applied music as follows: Piano, two years of continuous study or its equivalent in performance ability; Voice, Wind Instruments, and Violin, each for one year of continuous study or its equivalent in performance ability.

2. Candidates for the degree of Bachelor of Music in applied music must meet the general university requirements for graduation (pages 18 to 23), with the exception that a foreign language is required only of Voice majors and that only one survey course must be completed. In addition, they must complete the music courses suggested in Curriculum B and meet the following requirements in the field of specialization:

**Voice.** The candidate must have a knowledge of the technique of singing including breath control, resonance, placement, diction, and interpretation; both a singing and teaching knowledge of lieder, art song, oratorio, opera, and sacred literature; a singing mastery of at least one foreign language.

For his specialization requirements the student in voice must include Music 31a, 10abc (Choral Groups, 2 years), 1 (Piano, 2 years or its equivalent in performing ability).

**Piano.** The candidate must be able to demonstrate the ability to play scales, arpeggios, chords, octaves, and double notes in various speeds and with various tonal effects. Repertoire must include classic, romantic, and modern compositions such as Bach, Chromatic Fantasia and Fugue, preludes and fugues from the Well-Tempered Clavier; Beethoven Sonata op. 53 and a concerto; Brahms' Sonata in F Minor, Mozart Concerto in E-Flat Major, larger compositions of Chopin, Liszt, and Grieg; compositions from modern composers such as Rachmaninoff, MacDowell, Debussy, and Ravel. Candidates must be able to read compositions of moderate difficulty and average song accompaniments at sight.

For his specialization requirements the student in piano must include Music 10abc (Choral Groups, 2 years), 23abc, 37abc, 40abc (1 year), 47abc, and 140abc.

**Violin.** The candidate must be able to play scales, arpeggios, thirds, sixths, octaves, and harmonics satisfactorily and must have

studied such representative works as *Études* of Kreutzer, Fiorillo, Ronelli, Rode; not less than six concertos chosen from Bach, Mozart, Viotti, Rode, Beethoven, Wieniawski, Vieuxtemp, Bruch, and Brahms, and not less than six sonatas chosen from Bach, Mozart, Beethoven, Grieg, and Brahms; miscellaneous concert pieces in the standard repertoire.

For his specialization requirements the student in violin must include Music 10abc (Orchestra, 3 years), 31abc, 40abc (1 year), 129abc, and Piano (2 years or its equivalent in performing ability).

**Organ.** The candidate must be able to demonstrate ability in sight reading, in accompaniment of oratorios and masses, and in general service playing. He should have a large repertoire of organ literature of all schools, classic and modern, of the degree of difficulty indicated by the following: Bach, *Fantasia and Fugue in B Minor*; Handel, *Concerto in G*; advanced works of Guilmant, Widor, Franck, Vierne, Dupré, Mendelssohn, and others; works of contemporary French, English, German, and American schools.

For his specialization requirements the student in organ must include Music 10abc (Choral Groups, 2 years), 31a, 37abc, 40abc (1 year), 47abc.

**Wind Instruments.** The candidate must be able to perform representative solos from the literature for his instrument and to carry his part in a professional or semi-professional band or orchestra.

For his specialization requirements the student in wind instruments must include Music 10abc (Band, 3 years), 31abc, 40abc (2 years), 52abc, and 1 (Piano, 2 years).

3. Senior examinations are required of all students who major in music.

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Students who plan to secure a certificate to teach with minor preparation in Music should consult the course requirements listed on page 91.

### General Information

The Montana State University School of Music is an Associate Member of the National Association of Schools of Music.

The School of Music prepares its graduates to be soloists, teachers, and supervisors of music in the public schools. It develops in its students greater appreciation and ability in performance and gives students not specializing in music the advantage of music culture in the field which their interests and talents dictate.

Students who do not major in music will be allowed to count towards graduation only 6 credits in ensemble work and 12 credits in applied music. Ensemble music courses are indicated by an asterisk (\*) affixed to the number of the course description, and applied music courses are indicated by a dagger (†) affixed to the number of the course description.

Music majors who have not included 10abc and 40abc in their music electives may be required to participate in these courses without credit.

Music majors who fail to pass the placement examinations in sight singing may be required to do preparatory work in this field without credit.

Students are required to appear in recitals at the request of the instructor.

Students registered for courses numbered 1, 5, 6, 7, and 8 may be required to attend the lessons of another student registered in the same course.

For information regarding the Military Band see the Department of Military Science, page 118.

### A. Curriculum for Bachelor of Music Degree in Music Education

Curriculum A leads to certification for teaching in the public schools if the electives are so chosen as to meet the state requirements for two minors as listed on page 89.

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Applied Music 1 .....	3	3	3
Music 27abc .....	3	3	3
Music 29abc .....	1	1	1
Music 35abc .....	3	3	3
Psychology 11 and Electives .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	17	17	17
Sophomore Year			
Applied Music 1 .....	3	3	3
Music 25abc .....	1	1	1
Music 26abc .....	2	2	2
Music 28abc .....	2	2	2
Music 31abc .....	2	2	2
English 11ab and Education 19 .....	3	3	4
Electives .....	3-4	3-4	3
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	18-19	18-19	19
Junior Year			
Applied Music 1 .....	3	3	3
Music 36abc .....	2	2	2
Music 125abc .....	2	2	2
Music 123abc .....	3	3	3
Education 18 and Education Elective .....	3	4	...
Electives .....	4	3	7
	17	17	17
Senior Year			
Applied Music 1 .....	3	2	3
Music 134abc .....	2	2	2
Music 155abc .....	2	2	2
Education 22 and 26 .....	4	5	...
Electives .....	5	4	8
	16	16	15

### B. Curriculum for Bachelor of Music Degree in Applied Music

Curriculum B does not lead to certification for teaching in the public schools.

Freshman Year			
Applied Music 5 (Major) .....	4	4	4
Music 26abc .....	2	2	2
Music 27abc .....	3	3	3
Music (See Note below) .....	1	1	1
Biological Science 13abc or Physical Science 17abc .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	17	17	17

## Sophomore Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Applied Music 6 (Major) .....	4	4	4
Music 28abc .....	2	2	2
Music 35abc .....	3	3	3
Music 36abc .....	2	2	2
Music (See Note below) .....	1	1	1
English 11ab and Elective .....	3	3	3
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<hr/> 17	<hr/> 17	<hr/> 17

## Junior Year

Applied Music 7 (Major) .....	4	4	4
Music 125abc .....	2	2	2
Music 153abc .....	2	2	2
Music (See Note below) .....	4	4	4
Electives .....	4-5	4-5	4-5
	<hr/> 16-17	<hr/> 16-17	<hr/> 16-17

## Senior Year

Applied Music 8 (Major) .....	4	4	4
Music 134abc .....	2	2	2
Music 141 and 142 .....	2	...	2
Music (See Note below) .....	3	3	3
Electives .....	3-5	3-5	3
	<hr/> 14-16	<hr/> 12-14	<hr/> 14

**Note:** In addition to the courses specified in Curriculum B above, the student must also complete the work outlined as specialization requirements under voice, piano, violin, organ, wind instruments (pages 108 and 109) dependent upon which of those fields he selects.

## For Undergraduates

†1. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer.  $\frac{1}{2}$  to 1 cr. Scales, arpeggios, sight reading, and interpretation. A course for students not majoring in applied music and for students who are unable to meet the entrance requirements in Music 5. Music Staff.

†5. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn. Winter. Spring. 1 to 4 cr. Summer. 1 to 2 cr. Prerequisite, satisfactory placement examination as outlined in School of Music entrance requirements. Individual instruction designed to meet the requirements of first year students majoring in the various fields of applied music. Music Staff.

†6. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn. Winter. Spring. 1 to 4 cr. Summer. 1 to 2 cr. Prerequisite, satisfactory completion of Music 5. Continuation of individual instruction. Music Staff.

†7. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn. Winter. Spring. 1 to 4 cr. Summer. 1 to 2 cr. Prerequisite, satisfactory completion of Music 6. Continuation of individual instruction. Music Staff.

†8. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn. Winter. Spring. 1 to 4 cr. Summer. 1 to 2 cr. Prerequisite, satisfactory completion of Music 7. Continuation of individual instruction leading to fulfillment of requirements as outlined for applied music majors. Music Staff.

\*10abc. **Band, Orchestra, Choral Groups.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Band, choral, and orchestra prerequisite, consent of instructor; additional band prerequisite (for men), completion of or exemption from required Military Science. Music Staff.

†S20. **Wind Instruments in Class.** 1 Q. Summer. 2 cr.

†23abc. **Class Piano Methods.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, S23. 2 cr. Prerequisite, consent of instructor. A normal class for piano teachers and public school music instructors dealing

†Applied Music

\*Ensemble Music



with methods and materials for teaching piano classes in public schools and private studios. Practical demonstrations with children's classes. Not given in 1940-41. Mrs. Ramskill.

**25abc. String Instruments Methods.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Instruments to be selected by students with advice and consent of instructor. Mr. Weisberg.

**26abc. Elementary Harmony.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 26a. 2 cr. Construction and use of triads in major and minor keys; inversion of triads, cadences; dominant seventh chords and their inversions; modulation. Written and keyboard work. Mr. Weisberg.

**27abc. Sight Singing.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 27b. 2½ cr. Prerequisite, satisfactory placement examination. Beginning sight singing, including one-, two-, three-, and four-part work; melody writing, melodic and harmonic dictation, notation, and terminology. Mr. Teel.

**28abc. Advanced Sight Singing.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 27c. Mr. Teel.

**29abc. Wind Instruments Methods.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. One or more wind instruments to be selected by the student with advice and consent of instructor. Mr. Bell.

**31abc. Conducting.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 31b. 2½ cr. Prerequisite, 10 credits in music. Fundamentals of chorus and instrumental conducting. (a) Choral conducting. (bc) Instrumental conducting. The University choral and instrumental groups are made available to advanced students for practical experience. Mr. Teel.

**35abc. Music Appreciation.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 35c. 2½ cr. No prerequisite for students majoring in music; for others, sophomore standing. Students may enter any quarter. The elements of musical understanding; musical progress from ancient to modern times. Music of important periods of composition illustrated by means of phonograph selections and departmental programs. Mr. Teel.

**36abc. Advanced Harmony.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 26c. Modulations, secondary seventh chords, counterpoint, diminished seventh chord, augmented chords, suspensions, and keyboard harmony. Mr. Weisberg.

**37abc. Keyboard Harmony.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, 26abc or concurrent registration. Practical application of material presented in 26abc. Mr. Wendt.

**S38. Recital-Lectures.** 1 Q. Summer. 1 cr. Not given summer, 1940.

**†40abc. Ensemble Groups.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Any small group of two or more players or singers may have a course outlined by the instructor. Opportunity is offered for the development of sight reading and for gaining acquaintance with musical literature; accompanying. Music Staff.

**45abc. Microphone and Program Technique.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 45a. 1½ cr. (a) Use of public address system. (bc) Preparation and practice in broadcasting musical programs. Students who completed former course 160abc may not receive credit in this course. Mr. Lester.

**47abc. Advanced Keyboard Harmony.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, 37abc and 36abc or concurrent registration. Practical application of material presented in 36abc. Not given in 1940-41. Mr. Wendt.

**S50. Music for Public Performance.** 1 Q. Summer. 1½ cr.

**S51abc. Choral Technique.** 1 Q. Summer. 2½ cr.

**52abc. Band and Orchestra Management.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, one quarter of Music 31bc and 10 credits in band and orchestral instruments selected from Music 1, 25abc, and 29abc. A course designed to furnish instrumental conductors with materials and methods of preparing instrumental groups for performances; program building. Mr. Bell.

### For Undergraduates and Graduates

**S101. Modern Tendencies in Music Education.** 1 Q. Summer. 2½ cr. Prerequisite, 15 credits in music other than applied or ensemble music.

**119ab. Band and Vocal Arranging.** 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, 129a. Individual and combined possibilities of in-

†Applied Music

struments and voices; original work, arranging, and transcriptions for various combinations. Mr. Weisberg.

**123abc. School Music.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 123b. 2½ cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 27ab. (ab) Music of elementary schools and junior high school; child voice, rhythmic development, rote singing. (c) Music of senior high school; bands, orchestras, glee clubs, chorus, problems of community music, rural music, operettas, festivals. Mr. Teel.

**125abc. Counterpoint.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 36c or concurrent registration. Two-, three-, and four-part counterpoint. Mr. Weisberg.

**S127. Comparative Methods and Materials.** 1 Q. Summer. 2½ cr. Not given summer, 1940. Mr. Teel.

**129abc. Orchestration.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. Mr. Weisberg.

**134. History of Music.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 35abc or senior standing in music. Music of all periods analyzed; the lives, works, and influences of all composers discussed and studied. Not given in 1940-41. Mr. Teel.

**140abc. Interpretation and Style.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, consent of instructor. Piano compositions of different national schools and periods and characteristics of each from the standpoint of interpretation and style. Given in 1940-41, and in alternate years. Mr. Crowder.

**141. Score Reading.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing. Given in 1941-42, and in alternate years. Music Staff.

**142. Senior Recital.** 1 Q. Spring. 2 cr. Prerequisite, registration in Music 8. Music Staff.

**S151. Vocal Seminar.** 1 Q. Summer. 2-4 cr.

**S152. Instrumental Seminar.** 1 Q. Summer. 2-4 cr.

**155abc. School Music Laboratory.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, 1 quarter of 123abc. A practical course in organizing and teaching the various phases of music education. Mr. Teel.

**158abc. Form and Analysis.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c or concurrent registration. A course designed to familiarize the student with the melodic, harmonic, and formal structure of the different kinds of musical composition. Mr. Weisberg.

**159abc. Composition.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. A course in creative writing. Mr. Weisberg.

**S162. Seminar in Public School Music.** 1 Q. Summer. 1 cr. Prerequisite, teaching experience or consent of instructor. Special problems in public school music. Individual investigations and reports. Not given summer, 1940. Music Staff.

### Applied Music Fees per quarter.

A fee of \$25.00 per quarter will be charged all music majors, such fee to include two private lessons per week in voice, violin, piano, organ, or wind instruments. No two lessons in the same subject may be taken except as required in Curriculum B above. The fee includes class work in harmony and in string and wind instruments class methods (Music 23, 26, 36, 125, 25, 29, and 40).

For non-majors or majors taking courses beyond those required the fees per quarter will be:

Voice, Piano, Violin

Applied Music 1, 5, 6, 7, 8.	Two lessons a week.....	\$40.00
	One lesson a week.....	20.00

Organ

Applied Music 1, 5, 6, 7, 8.	Two lessons a week.....	36.00
	One lesson a week.....	18.00

Wind Instruments

Applied Music 1, 5, 6, 7, 8.	Two lessons a week.....	24.00
	One lesson a week.....	12.00

Music 25abc and 29abc (two lessons a week).....	5.00
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Music 26abc, 36abc, 125abc..... 3.00

For majors and non-majors who register for applied music for less than a full quarter or who withdraw before the end of the quarter, a charge of \$1.75 per private lesson taken will be made.

Lessons in applied music missed by the instructor will be made up within the quarter. Lessons missed by students or lessons falling on a legal holiday will not be made up.

#### Rentals, per quarter.

Piano and practice room. One hour daily.....	\$3.00
Additional hour daily.....	2.00
Organ and practice room. One hour daily.....	6.00
Additional hour daily.....	6.00
Practice room for violin students. One hour daily.....	1.00
Additional hour daily.....	.50

Students registered in Music 25abc and 29abc must rent instruments unless they provide their own.

Rentals must be paid for entire quarter. No refunds of rentals will be made.

## SCHOOL OF PHARMACY

PROFESSOR CHARLES E. F. MOLLETT (DEAN) ; ASSOCIATE PROFESSORS  
LEON RICHARDS, JOHN F. SUCHY.

The School affords opportunities to students to obtain a thorough technical education in Pharmacy. By registering in the **Scientific** course and selecting properly subjects in Chemistry and Bacteriology, students may prepare for positions in technical laboratories and in Government service.

#### Requirements for Admission

The regular University requirements for admission apply to the School of Pharmacy (pages 15 to 18). In addition, students must have completed a minimum of 40 credits of prescribed college work.

#### Requirements for Graduation

Candidates for the degree of Bachelor of Science in Pharmacy must meet the following requirements:

- (1) The general University requirements for graduation (pages 18 to 23).
- (2) The following courses in Pharmacy must be completed: 11, 13, 14, 22, 31, 35, 39. Matriculants in the **Professional** course must also complete Pharmacy 27; those registered in the **Scientific** course must include Pharmacy 65, 101abc, and 113.
- (3) In the **Professional** course a minimum of 15 credits in a foreign language must be offered. In the **scientific** course a reading knowledge, equivalent to at least 23 credits in some foreign language, preferably German, is required.

Senior examinations will not be given except to candidates for honors.

Candidates for the degree of Master of Science in Pharmacy must comply with the regulations governing graduate work set forth on page 80.

### General Information

This School is a member of the American Association of Colleges of Pharmacy.

As an important addition to the equipment in pharmacy, a small plot is devoted to the raising of medicinal plants to provide material for laboratory use of students in the courses of pharmacognosy, manufacturing pharmacy, and drug analysis. The enterprise has received assistance from the Bureau of Plant Industry of the United States and from a number of schools of pharmacy of other states which have well-established gardens.

Pharmacy majors automatically become members of the Pharmacy Club, and associate members of the Montana State Pharmaceutical Association.

### Required Curricula for Majors in Pharmacy

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Social Science 11abc .....	5	5	5
Chemistry 13abc .....	5	5	5
Foreign Language .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	17	17	17
Sophomore Year			
Pharmacy 11abc .....	5	5	5
Pharmacy 13abc .....	5	4	4
Chemistry 101 .....	5	5	.....
English 11ab .....	.....	3	3
Zoology 24 .....	.....	.....	5
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	17	19	19
Professional Course			
Junior Year			
Pharmacy 14abc .....	4	4	4
Pharmacy 22abc .....	4	4	4
Pharmacy 27abc .....	3	3	3
Bacteriology 19 .....	5	.....	.....
Psychology 11 and 32 .....	.....	5	5
	16	16	16
Senior Year			
Pharmacy 31abc .....	4	4	4
Pharmacy 35abc .....	4	4	4
Pharmacy 39 or 65 .....	.....	4	4
*Business Administration 11 and English 20 .....	5	5	.....
Elective .....	4	.....	5
	17	17	17

### Scientific Course

**\*Note:** Students following the Scientific Course should in the senior year replace Business Administration 11 by foreign language and take Pharmacy 65, 101abc, and 113.

### For Undergraduates

A minimum of 40 credits of prescribed college work must be completed before students are admitted to the following courses:

**11. Introductory and Galenical Pharmacy.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Summer, 11a. 4 cr. Prerequisite, Chemistry 13ab or equivalent. (a) The study and application of metrology and phar-

maceutical processes and technique. Text: Remington's Practice of Pharmacy, Part I. (bc) Theory and practice in the manufacture of U.S.P. and N.F. galenical preparations. Students who have completed former courses 12 and 20 may not receive credit in this course. Mr. Richards.

**13. Pharmaceutical Botany and Pharmacognosy.** 3 Q. Autumn, 5 cr., winter, 4 cr., spring, 4 cr. Continuous. 13 cr. A preliminary course in basic and fundamental botany followed by a comprehensive macroscopic and microscopic study of the official crude plant and animal drugs, including their nomenclature, sources, preparation, identification, constituents, doses, and uses. Mr. Suchy.

**14. Pharmaceutical Chemistry.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Prerequisite, Chemistry 11 or 13ab. The pharmaceutical chemistry of the official inorganic and organic substances and preparations is studied with regard to nomenclature; source and preparation; physical properties; and pharmaceutical uses, doses, and preparations. Mr. Richards.

**15. Field Pharmacognosy.** 1 Q. Autumn. Spring. 3 cr. Summer. 4 cr. Prerequisite, Pharmacy 13. The official indigenous drug plants; those grown in the medicinal garden are studied as to propagation, methods of selection, and preservation of the parts used in pharmacy. Mr. Suchy.

**22. Drug Analysis.** 3 Q. Autumn, winter, spring. 12 cr. Prerequisite, Pharmacy 11, 13, and 14, and Chemistry 13c and 101. Chemical qualitative and quantitative analysis of official drugs and preparations according to the methods of the U.S.P. and N.F. Mr. Suchy.

**S23. Materia Medica.** 1 Q. Summer. 4 cr. Open to pre-medical and nursing students. Majors in Pharmacy may not apply credit in this course towards graduation. Weights, measures, percentage solutions, and official drugs in groups according to their therapeutic uses. Reference is made to the sources of these drugs; special attention is given to their active principles, effects upon the body, therapeutic uses, and toxicology. Mr. Mollett.

**27. Pharmaceutical Economics.** 3 Q. Autumn, winter, spring. Continuous. 9 cr. Prerequisite, Pharmacy 11 and 13. Lectures and recitations on the establishment, management, and development of the modern pharmacy. Abstracts of assigned readings in current pharmaceutical literature. Mr. Mollett.

**31. Pharmacology.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Prerequisite, senior standing in Pharmacy. Lectures and recitations on the pharmacology, therapeutics, toxicology and posology of the U.S.P., N.F. remedies, and those in New and Non-official Remedies. Laboratory demonstrations and experiments on simple and uninvolved actions of drugs. Mr. Mollett.

**35. Dispensing.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Prerequisite, Pharmacy 22. A technical study of all phases of the prescription; practical exercises in sight reading; extemporaneous compounding. Mr. Richards.

**39. Urinalysis.** 1 Q. Spring. 4 cr. Prerequisite, Chemistry 13c and 19 or 101. The different types of body metabolism as related to the excretion of urine. Macroscopic and microscopic examinations of normal and pathologic samples; qualitative and quantitative determinations. Mr. Suchy.

**40. Evolution of Pharmacy.** 1 Q. Autumn. 2 cr. Prerequisite, sophomore standing. The origin, evolution, and present status of the profession; outstanding pharmacists of the past and present and their scientific contributions. Mr. Mollett.

**42. Pharmaceutical Ethics.** 1 Q. Spring. 2 cr. Prerequisite, senior standing. The ethics of pharmacy from ancient to modern times, as embodied in the various codes. The major responsibilities of pharmacists: their duties in relation to the public, to the physician, to each other, and to the profession of pharmacy. Mr. Mollett.

**S46. Household Remedies.** 1 Q. Summer. 2 cr. Not open to Pharmacy majors. Discussion of the remedies and preparations usually found in the home from the pharmacist's point of view, with advice concerning the choice, preservation, composition, and uses of these preparations. Formulas and directions for making some of the more simple and commonly used cosmetics. Mr. Mollett.

**65. Advanced Analysis.** 1 Q. Winter. 4 cr. Prerequisite, Pharmacy 22. The study and detection of the common organic and inorganic poisons, with emphasis on those of alkaloidal or glucosidal nature. Physical, microscopic, and chemical methods form the basis of separations and identifications. Mr. Suchy.

### For Undergraduates and Graduates

**101abc. Seminar.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, senior standing. Students who have completed Pharmacy 33 may not receive credit in this course. Pharmacy Staff.

**113. Drug Microscopy.** 1 Q. Winter. 2 cr. Prerequisite, junior standing and Pharmacy 13. Microscopic examination of drugs, foods, and spices. The detection of adulterants and impurities. Mr. Suchy.

**131. Advanced Pharmacy.** 1 to 3 Q. 2-5 cr. each quarter. Prerequisite, senior standing. Individual problems in special fields. Pharmacy Staff.

### For Graduates

**201. Research.** Advanced courses and research will be offered in the following fields: (a) Practical pharmacy and dispensing; (b) pharmacognosy and pharmaceutical chemistry; (c) pharmacology. Pharmacy Staff.

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## MILITARY SCIENCE AND TACTICS

PROFESSOR ROBERT EDWARD JONES (Colonel, Infantry); ASSOCIATE PROFESSORS RALPH M. CAULKINS (Major, Infantry), IRVING H. ENGLEMAN (Lt. Col., Infantry); WILLIAM H. JOHNSON (Major, Infantry). HOMER H. HOPPLE (Sergeant D.E.M.L.), MAYWOOD KIRKWOOD (Staff Sergeant, D.E.M.L.), JOSEPH N. PIETRO (Sergeant, D.E.M.L.), ASSISTANTS. (All United States Army.)

The University maintains an infantry unit of the Reserve Officers' Training Corps, Senior Division, organized in 1919, under authority of the National Defence Act.

"The general object of the courses of instruction of the Reserve Officers' Training Corps is to qualify students for positions of leadership in time of national emergency."—Extract, War Department publication A. G. 353 R. O. T. C. 1932. Every effort is made to develop the initiative and other qualities of leadership necessary for success in any walk of life.

Students enrolled in the R. O. T. C. courses have no obligation for military service in a national emergency other than that of an able-bodied citizen. Students satisfactorily completing the advanced course are commissioned as second lieutenants, Infantry Reserve, with attendant obligations.

All resident men students of freshman and sophomore standing who are citizens of the United States and who are physically fit are required to take the basic R. O. T. C. course, except those who may claim exemption under any of the following reasons:

### SECTION I. Complete exemption.

#### (a) GENERAL REQUIREMENTS:

1. Students who have reached the age of 26 years at the beginning of the quarter.
2. Filipino students who have not been legally admitted as citizens of the United States.

#### (b) MILITARY REQUIREMENTS: (Upon presentment of the necessary credentials.)

1. Completion of two years of military instruction in a Senior R. O. T. C. Unit.
2. Attendance at two Citizen's Military Training Camps.
3. Completion of one enlistment in the National Guard.
4. Attendance at two National Guard Training Camps which consisted of at least two weeks of training at each camp.
5. Students who have served in any branch of the Army or Navy.

**SECTION II. Exemption of one year.**

- (a) Attendance at one Citizen's Military Training Camp.
- (b) Attendance at one National Guard Training Camp, which consisted of at least two weeks of training.

**SECTION III. Exemption for training in a Junior Division, or in any college or school conducting military training.**

Students who have received previous military training in a Junior Unit or in some other school or college conducting military training under an officer of the Army, will receive such credit adjustment as the professor of Military Science and Tactics and the head of the institution may jointly determine.

A first- or second-year student claiming exemption because of non-citizenship, physical disability, or age must present to the Department of Military Science and Tactics a petition for such exemption. Pending action on this petition, the student must enroll in the course prescribed for his year and enter the work of the course.

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All male students, unless exempted under Section I of the above regulations, must register in the Department during the first quarter of their attendance at Montana State University and each succeeding quarter until the requirement is completed.

Students who have satisfactorily completed the basic course are eligible to make application for the advanced course which covers two additional years. Students are carefully selected according to military and scholastic merit from those who make application for this course. Before being admitted to the advanced course they must pass a thorough physical examination and must execute a written contract to complete the course and pursue a period of summer camp training, normally 6 weeks at government expense, as a prerequisite to graduation from the institution.

The Federal Government supports military training at this institution by providing uniforms and by furnishing instructional material, weapons, equipment, and regular army personnel for instruction and administration. The president of the university is bonded for the full value of government property so furnished. Each member of the basic course is issued a uniform which must be properly worn while attending military classes. No special deposit is required for military property issued, but articles lost, worn out, or damaged through other than fair wear and tear must be paid for by the student. Uniforms must be kept in first class condition and so returned at the close of the college year or when the student for any reason discontinues military training.

All students are required to provide themselves with a ROTC Manual which, for the basic course students, costs approximately \$3.00 and contains the work for both the freshman and sophomore years.

**For Undergraduates**

**10. Military Band.** 6 Q. Autumn, winter, spring, freshman and sophomore years. 1 cr. each quarter. Prerequisite, consent of band director. A limited number of qualified freshman and sophomores may elect work in the Military Band in place of the regular basic courses listed below. This work may be applied toward fulfilling the general university requirement in Military Science but it does not apply as a prerequisite to the advanced Military Science (courses 13 and 14) leading to a commission in the Officers' Reserve Corps. Students interested in the advanced work should enroll initially in the basic courses (11 and 12 below).

**Note:** Students who are irregular in the sequence of the basic courses 11abc and 12abc should note that the work of the winter quarters (11b, 12b) may **not** be substituted for either an autumn or a spring quarter's work. Not more than two winter quarters of basic Military Science will be accepted in fulfilling the general university requirement.

**\*11abc. Military Science and Tactics.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Students may enter any quarter. National Defense Act and Reserve Officers' Training Corps; obligations of citizenship; military history and policy; current international situation; military discipline; courtesies and customs; military sanitation and first aid; military organization; general organization of infantry with special reference to rifle, machine gun, howitzer, supply and headquarters companies; map reading; leadership and rifle marksmanship. Military Staff.

**\*12abc. Military Science and Tactics.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Military Science 11abc. Students may enter any quarter. Military history; leadership; automatic rifle; characteristics of infantry weapons; combat training; musketry, scouting and patrolling; functions of platoon scouts; combat principles. Military Staff.

**†13abc. Military Science and Tactics.** 3 Q. Autumn, winter, spring. 2½ cr. each quarter. Prerequisite, Military Science 12abc. Aerial photograph reading; leadership; weapons; machine guns; howitzer company weapons; pistol; rifle marksmanship; combat training; field fortifications. Military Staff.

**†14abc. Military Science and Tactics.** 3 Q. Autumn, winter, spring. 2½ cr. each quarter. Prerequisite, Military Science 13abc. Military history and policy; military law; company administration and supply; Officers' Reserve Corps regulations; leadership; tanks; mechanization; combat training. Military Staff.

## THE MONTANA SCHOOL OF RELIGION

ASSISTANT PROFESSOR AND DIRECTOR HARVEY F. BATY.

The Montana School of Religion was organized in 1924 by a committee representing the University and several religious denominations for the purpose of making courses in religion available to the students of Montana State University. The School of Religion is not a part of the University, but is under a director who is responsible to a Board of Trustees representing the cooperating denominations and the University.

The University allows a maximum of fifteen credits toward graduation for courses taken in the School of Religion. Additional information concerning these courses may be obtained from the Director of the School of Religion at Montana State University.

### For Undergraduates

The courses listed below are open to all students.

**21R. The Religions of Mankind.** 1 Q. Autumn. 3 cr. The historic, psychological, and literary setting of religions, indicating their values, weaknesses, and strengths. Designed to increase appreciation for this part of the cultures of other peoples. Mr. Baty.

**22R. Literature of the Old Testament.** 1 Q. Winter. 3 cr. Chief poetic and historic writings of the Old Testament from a literary viewpoint. Designed to increase the understanding of the common life of the Semitic peoples, and an appreciation for their contribution to civilization. Given in 1941-42, and in alternate years. Mr. Baty.

**23R. New Testament Literature and Life.** 1 Q. Winter. 3 cr. The life of Jesus and its effect upon the times following. The founding of the apostolic church; the historic antecedents and consequences of the Christian tradition. Given in 1940-41, and in alternate years. Mr. Baty.

**31R. Our Prophetic Heritage.** 1 Q. Spring. 3 cr. The social teachings of the prophets of Israel including Jesus, and the implications of their

\*Basic Course.

†Advanced Course.



teachings for modern times. Given in 1941-42, and in alternate years. Students who completed 26R prior to 1938-39 may not receive credit in this course. Mr. Baty.

**32R. Modern Religious Movements.** 1 Q. Spring. 3 cr. A survey of the religious movements of the last one hundred years to discover why they have developed, and what contribution they have made to the religious thought of our own time. Given in 1940-41, and in alternate years. Mr. Baty.

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## SUMMER SESSION

**Note:** For information pertaining to the summer session consult the current summer session bulletin, which may be obtained upon request.

The summer session of Montana State University is a nine-weeks' session. In 1940 this session will begin June 10 and will close August 9, in 1941 the session will begin June 16 and will close August 15. Students may attend the first six weeks, the last six weeks, or the entire nine weeks.

### Courses

All of the departments of the College of Arts and Sciences usually offer courses during the summer sessions, as do the Schools of Business Administration, Education, Journalism, Music, and Pharmacy. The courses in Library Economy and Music ordinarily continue for the first six weeks only. For information regarding courses, see the summer session bulletin.

### Admission

Requirements for admission to the summer session are the same as the requirements for entrance during the regular college year (pages 15 to 18).

### Registration Fee

Registration fee for the summer session is \$27. Students who register for less than five undergraduate credits or the equivalent pay \$14. Students registered only as listeners pay \$14. During summer sessions non-residents pay the same fees as resident students.

Scholarships, including high school honor scholarships, do not exempt holders from payment of the summer session fee.

For further information regarding summer session fees see summer session bulletin.

### Credit Toward Degrees

University credit toward degrees is given to those who satisfy the regular entrance requirements. The normal schedule which may be carried during the nine weeks of the session is 12 credits, plus 1 credit in Physical Education S11 and 1 credit in applied or ensemble music or in applied acting or stagecraft; the maximum registration for six weeks is  $7\frac{1}{2}$  credits plus 1 credit in either Physical Education S11 or in applied or ensemble music, or in applied acting or stagecraft. Permission to carry more than this number is granted only for special reasons.

Residence requirements for the Bachelor's degree may be fulfilled by four summer sessions of nine weeks each, during which time the students must complete at least forty-five quarter credits. Of the last forty-five credits required for graduation, thirty-five credits must be earned in residence at Montana State University.

### **Credit Toward Teachers' Certificates**

Courses required for Montana teachers' certificates, first grade, state, and life, will be given.

### **Graduate Work**

During the summer session, properly qualified students may do work toward a Master of Arts or Master of Education degree. Residence requirements and other regulations governing graduate study and the granting of a Master's degree may be found on page 80.

### **Certificate of Attendance**

Students in the summer session who are not registered as candidates for degrees, will, upon request to the Registrar, receive a certificate of attendance for courses satisfactorily completed.

### **Recreation**

An attractive feature of the summer session is the recreational program, which includes cooperative excursions, camping trips, picnics, campfire parties, golf, tennis, baseball, and swimming. The pleasant summer climate and picturesque mountain country of western Montana provide an ideal background for a combination of study and recreation.

## SUMMARY OF REGISTRATION, 1939-40

COLLEGE, SCHOOL, OR COURSE	Graduates			Seniors			Juniors			Sophomores			Freshmen			Specials			Totals		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Arts and Sciences	21	20	41	98	130	228	89	111	200	226	161	387	249	211	460	2	1	3	685	634	1319
Business Administration	5	1	6	66	31	97	55	29	84										126	61	187
Education	13	2	15	11	7	18	7	6	13										31	15	46
Forestry	3		3	98		98	41		41	36		36	57		57	1		1	236		236
Journalism	4		4	22	7	29	11	4	15	21	8	29	32	25	57				90	44	134
Law	25	2	27	41		41	14		14										80	2	82
Music				8	9	17	3	7	10	6	11	17	12	15	27				29	47	76
Pharmacy	2		2	9	3	12	10	6	16	8	2	10	16	3	19				45	14	59
Totals	73	29	102	353	187	540	230	163	393	297	182	479	366	254	620	3	2	5	1322	817	2139
Music Specials																3			3	17	20
Shorthand and Typing Specials																1			1	17	18
Unclassified																			11	8	19
Totals																(Academic Year)			1337	859	2196
Summer Quarter, 1939																			344	497	841
Totals																			1681	1356	3037
Less Duplicates																			-74	112	186
Total Enrollment of Resident Students, 1939-40																			1607	1244	2851
Correspondence and Extension Students																			738	609	1347
Totals																			2345	1853	4198
Less Duplicates																			-113	123	236
Total for Year 1939-40																			2232	1730	3962

## Summary of Registration by Counties State and Countries 1939-40

Counties in Montana	Men	Wom- en	Total
Beaverhead .....	17	5	22
Big Horn .....	9	8	17
Blaine .....	6	6	12
Broadwater .....	2	2	4
Carbon .....	16	26	42
Carter .....	2	1	3
Cascade .....	91	61	152
Chouteau .....	16	14	30
Custer .....	24	12	36
Daniels .....	4	3	7
Dawson .....	12	8	20
Deer Lodge .....	34	20	54
Fallon .....	1	5	6
Fergus .....	30	13	43
Flathead .....	52	39	91
Gallatin .....	27	15	42
Garfield .....	6	8	14
Glacier .....	24	7	31
Golden Valley ....	7	2	9
Granite .....	9	9	18
Hill .....	31	21	52
Jefferson .....	14	8	22
Judith Basin .....	5	11	16
Lake .....	32	26	58
Lewis & Clark ..	57	37	94
Liberty .....	4	5	9
Lincoln .....	10	13	23
McCone .....	4	5	9
Madison .....	9	7	16
Meagher .....	9	5	14
Mineral .....	13	3	16
Missoula .....	321	329	650
Musselshell .....	6	16	22
Park .....	23	15	38
Petroleum .....	1	6	7
Phillips .....	9	5	14
Pondera .....	18	19	37
Powder River ....	7	1	8
Powell .....	18	15	33
Prairie .....	6	2	8
Ravalli .....	27	29	56
Richland .....	24	12	36
Roosevelt .....	19	12	31
Rosebud .....	17	7	24
Sanders .....	18	10	28
Sheridan .....	17	9	26
Silver Bow .....	92	80	172
Stillwater .....	11	5	16
Sweetgrass .....	10	8	18
Teton .....	13	12	25
Toole .....	15	9	24
Treasure .....	2	5	7

Counties in Montana	Men	Wom- en	Total
Valley .....	12	21	33
Wheatland .....	12	7	19
Wibaux .....	6	3	9
Yellowstone .....	75	46	121

Totals .....1356 1088 2444

States	Men	Wom- en	Total
Arizona .....	1	..	1
California .....	13	9	22
Connecticut .....	1	..	1
Florida .....	1	2	3
Idaho .....	9	11	20
Illinois .....	27	6	33
Iowa .....	6	8	14
Kansas .....	3	..	3
Maryland .....	1	..	1
Massachusetts ....	4	..	4
Michigan .....	..	1	1
Minnesota .....	15	9	24
Missouri .....	2	1	3
Nebraska .....	2	..	2
Nevada .....	..	1	1
New Jersey .....	3	..	3
New York .....	2	2	4
North Carolina ..	1	..	1
North Dakota ....	82	63	145
Ohio .....	6	1	7
Oklahoma .....	1	2	3
Oregon .....	2	4	6
Pennsylvania .....	8	..	8
South Dakota ....	13	9	22
Texas .....	4	1	5
Utah .....	..	1	1
Washington .....	19	11	30
West Virginia ....	3	..	3
Wisconsin .....	10	5	15
Wyoming .....	11	3	14

Totals .....250 150 400

Countries	Men	Wom- en	Total
Alaska .....	1	2	3
Canada .....	..	3	3
Chile .....	..	1	1

Totals .....1 6 7

Counties	Men	Wom- en	Total
Other States .....	1356	1088	2444
Other Countries ..	250	150	400
Other Countries ..	1	6	7

Totals .....1607 1244 2851

## DEGREES GRANTED 1939-40\*

	Men	Women	Total
Honorary Degrees:			
Master of Forest Engineering .....	1	....	1
Doctor of Laws.....	1	....	1
Total Honorary Degrees.....	2	0	2
Master of Arts:			
Bacteriology and Hygiene .....	1	1	2
Botany .....	1	....	1
Chemistry .....	1	....	1
Economics and Sociology .....	....	1	1
Education .....	5	....	5
Geology .....	1	....	1
History and Political Science .....	1	....	1
Latin .....	....	1	1
Mathematics .....	1	1	2
Total Master of Arts Degrees.....	11	4	15
Master of Education .....	14	....	14
Master of Science in Pharmacy .....	1	....	1
Bachelor of Arts:			
Bacteriology and Hygiene .....	....	1	1
Botany .....	1	2	3
Chemistry .....	2	....	2
Economics and Sociology .....	19	12	31
English .....	1	18	19
Fine Arts .....	....	2	2
French .....	....	8	8
Geology .....	1	....	1
German .....	1	....	1
History and Political Science .....	6	3	9
Home Economics .....	....	21	21
Law .....	5	1	6
Library Economy .....	....	2	2
Mathematics .....	3	....	3
Physical Education .....	2	....	2
Physics .....	4	....	4
Pre-Medical Sciences .....	7	1	8
Psychology and Philosophy .....	3	1	4
Spanish .....	1	5	6
Wild Life Technology .....	1	....	1
Zoology .....	5	2	7
Total Bachelor's Degrees, Arts and Sciences....	62	79	141
Bachelor of Arts in Business Administration.....	46	27	73
Bachelor of Arts in Education .....	12	15	27
Bachelor of Science in Forestry .....	49	....	49
Bachelor of Arts in Journalism .....	13	2	15
Bachelor of Science in Medical Technology .....	....	2	2
Bachelor of Arts in Music .....	3	7	10
Bachelor of Science in Pharmacy .....	11	5	16
Bachelor of Laws .....	16	....	16
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\*Spring, 1939 to Winter, 1940 inclusive.

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